# Resident Physician

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journal for the Hospital Staff Officer

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September 1957, Vol. 3, No. 9

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# Resident Physician

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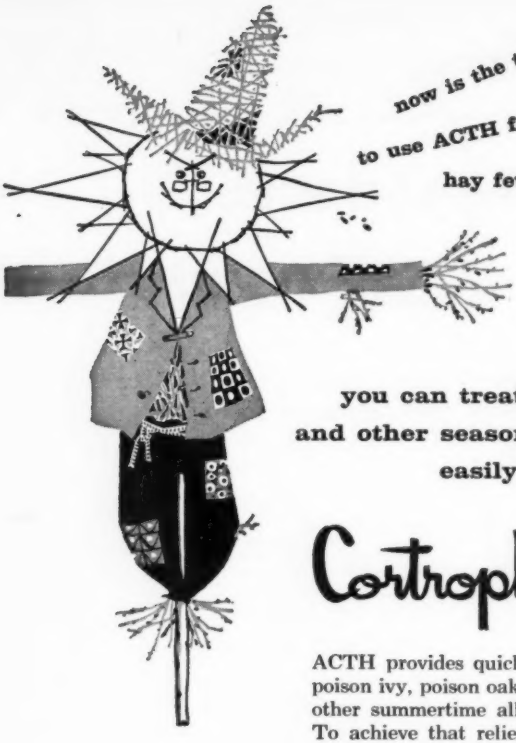

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September 1957, Vol. 3, No. 9

Journal for the Hospital Staff Officer

# Resident Physician

September 1957, Vol. 3, No. 9

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Articles are accepted for publication with the understanding that they are contributed solely to this publication, and will directly interest or be of practical value to resident physicians. When possible, two copies of the manuscript should be submitted. Articles with photographs, illustration or drawings are especially desired.

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| CONDITIONS | FIRST CYCLE | SECOND AND THIRD SUCCEEDING CYCLES |
|---|---|---|
| Amenorrhea (Primary or Secondary) | One tablet daily for 20 days to establish cycle | One tablet daily from day 5 to day 25* |
| Metrorrhagia | One or two tablets daily to day 25 or for 10 days to establish cycle† | Same as above |
| Menorrhagia | One or two tablets daily through balance of cycle† | Same as above |
| Oligomenorrhea | One tablet daily from day 5 to day 25* | Same as above |
| Dysmenorrhea | One tablet daily from day 5 to day 25‡ | Same as above |
| Premenstrual Tension | One tablet daily from day 15 to day 25§ | Same as for first cycle |
| Inadequate Luteal Phase | One tablet daily from day 15 to day 25 | Same as for first cycle |

*Enovid therapy prior to day 15 may interfere with ovulation and if this is undesired, day 15 to day 25 may be substituted.

†If the patient is bleeding when first seen, two tablets will usually control the bleeding. In some patients less severe bleeding may be controlled with one tablet. The dosage used should be continued through the remainder of the cycle.

‡If dysmenorrhea is due to endometriosis, a special dosage schedule is required; Kistner[6] suggests 10 mg. daily for two weeks, 20 mg. daily for two weeks, 30 mg. daily for two weeks and 40 mg. daily for two to five months.

§Heller[5] recommends one tablet every twelve hours from day 5 to day 25 for two or three cycles.

**REFERENCES:**

1. Southam, A. L.; 2. Roland, M.; 3. Kupperman, H. S., and Epstein, J. A.; 4. Weinberg, C. H.: Papers Presented during a Symposium on Steroid Compounds Exhibiting Progestational Effects, Chicago, Searle Research Laboratories, Jan. 23, 1957, to be published. 5. Heller, C. G.: Internat. Rec. Med. 169:760 (Nov.) 1956. 6. Kistner, R. W.: The Use of Newer Progestins in the Treatment of Endometriosis—A Pseudopregnancy, Section on Obstetrics and Gynecology, American Medical Association, New York, June 5, 1957.

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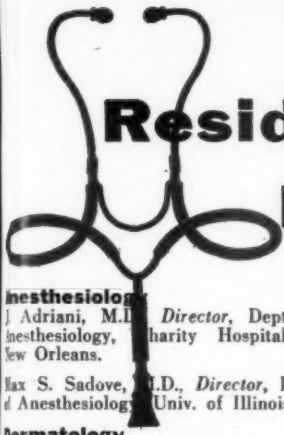

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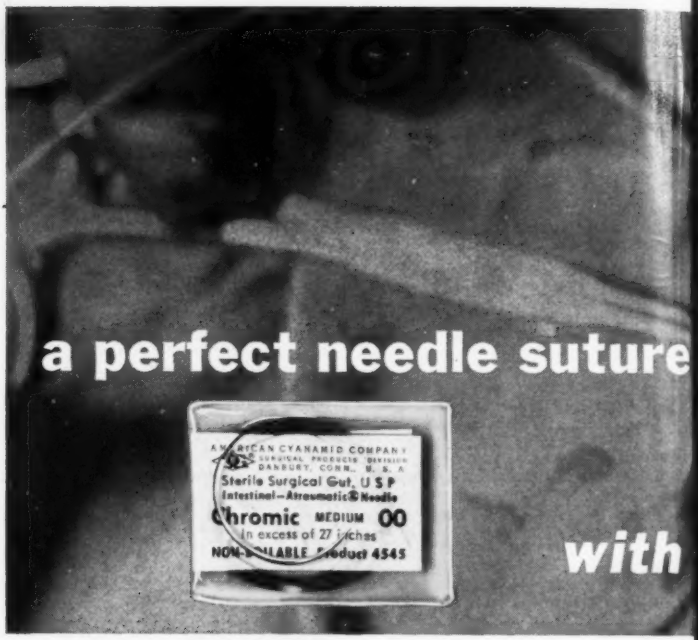


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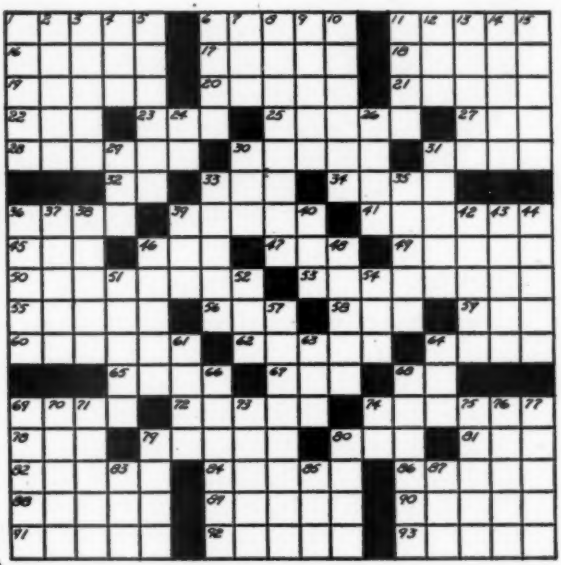
(Answer on page 194)

# Resident Relaxer



**ACROSS**

Sole of the foot
Outer rim of the ear
Pertaining to the sixth cranial nerve
Ointment constituent
Bring into line (var.)
Rose spirits of
Group of species
Argous
Treatment (gr.)
Tumor (suffix)
Ventilate
Edible bulb
Chemical (suffix)
Said to immunize against leprosy
French surgeon (d. 1860)
Employer
Ilium: symbol
Insane
Hind: French
Skin disease
Heathen
Tractable
Deception
—ter, Scottish anatomist & surgeon
Labium
Plateau region in Peru (pl.)
Inability to chew food
Hysteria in the male
Mountain range, N.W. Wyoming
—iology, cause
To irritate
Geologic age
Breathe out
Tendon (Gr.)
Retention suture
Pumpkin seed
White metallic element
—ahum, African disease
Light blows
Pertaining to the external occipital protuberance
Chemical element having even-numbered valency
—iogy, therapeutics
Contempt
Beverage
Elastic bandage (proprietary)
A tonic
Female name
Amnesia
Atabrin
Noun (suffix)
—docardia, air within the heart
Falls in frozen crystals
Dim. of Edmund
Lumps of earth

**DOWN**

Organisms occuring in ice
Presence of fluid in tissues of the body
Belonging to Miss Horne
Medical Practitioners' Union (abbr.)
Beset
6. Filamentous outgrowth of the body
7. Shade tree
8. Fatlike
9. Silly
10. Desiccative powder
11. Blood vessel
12. Wing of nose
13. Stain for tuberculosis
14. Substance in milk which reduces nitrate
15. Frankfurt surgeon (1853-1916)
24. Negative prefix
26. Toward the mouth
29. Ligate
30. Droop
31. Anterior end of hippocampal gyrus
33. Mental disorder
35. Uroselectan
36. Winged
37. Genus of bedbugs
38. City in South Wales
39. Product of suppuration
40. Insect egg
42. Insert
43. Hysterical barking in women
44. Try
46. He described a famous loop
48. Proprietary opium preparation
51. Products of saponification
52. Stubborn
54. Kidney (Latin)
57. Resembling lockjaw
61. Narrative poem
63. Nothing
64. To pose
66. A glycoside
68. Proprietary name for casein fiber
69. Locomotor ataxia
70. Fruit of the oak
71. Heine-medin disease
73. Angry
74. Antitoxin unit (Ger. abbr.)
75. Physician (prefix)
76. Painted
77. Test for blood in gastric juice
79. Male children
80. Very small
83. Prosper (Scot.)
85. Moderate (abbr.)
87. Lamprey

**now** "... *care of the man rather than merely his stomach.*"[1]

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Miltown® + *anticholinergic*

controls

**gastrointestinal dysfunction**
at cerebral *and* peripheral levels

**tranquilization without barbiturate loginess**

**spasmolysis without belladonna-like side effects**

for *duodenal ulcer • gastric ulcer • intestinal colic spastic and irritable colon • ileitis • esophageal spasm G. I. symptoms of anxiety states*

*prescribe:*
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*1 Wolf & Wolf. Human Gastric Function*

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# Viewbox Diagnosis

Edited by Maxwell H. Poppel, M.D., F.A.C.R.,
Professor of Radiology, New York University College of Medicine
and Director of Radiology, Bellevue Hospital Center

## What Is Your Diagnosis?

1. Congenital lues
2. Scurvy
3. Rickets
4. Cooley's Anemia

*(Answer on page 194)*

more than

# 100,000*

# survived

with

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bitartrate

natural ***antishock*** pressor hormone

Pulls the "inoperable" emergency patient out of shock...

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*based on extent of usage and conservative estimate of average survival rates.

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# a psychic energizer

## (the opposite of a tranquilizer)

**Q.** **What is the dosage of Marsilid?**

**A.** The daily dose should not exceed 150 mg (50 mg t.i.d.). In patients who are not hospitalized, the dosage should be reduced after the first 8 weeks to an average of 50 mg daily or less. Marsilid is a cumulative drug requiring careful individual dosage adjustment.

Side effects due to Marsilid are reversible upon reduction of dosage or cessation of therapy. It may cause constipation, hyperreflexia, paresthesias, dizziness, postural hypotension, sweating, dryness of mouth, delay in starting micturition, and impotence.

**Q.** **When is Marsilid contraindicated?**

**A.** Marsilid is contraindicated in overactive, overstimulated or agitated patients. Marsilid therapy should be discontinued two days before the use of ether anesthesia. It should not be given to epileptic patients, or together with cocaine or meperidine.

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# Letters to the Editor

*Unsigned letters will neither be published nor read. However, at your request your name will be withheld.*

### Friendly Spirit

I would like all your readers to know that as a foreign resident, I have been accorded the most gracious treatment and offered a marvelous opportunity for learning here in this country. I appreciate deeply the kindnesses and believe I have taken full advantage of the opportunity. The friendly spirit of cooperation and the dedication to knowledge here is warming and memorable to this "visiting fireman." I return to my own country this month. I shall never forget this outstanding nation and will try to carry what I have learned to my own land—not as lend lease but as a special gift from a special kind of people, the physicians and surgeons of the United States.

I respect your fine journal and hope you will print my "thank you" from one who has no quarrel—only praise.

Giovanni Syracusa, M.D.
Chicago, Ill.

### Language Guide

Please send me one copy of the six language handy history-taker to the undersigned who encloses $1 in check and omits the box tops. Thank you.

Fred Kratina, M.D.
San Mateo Community Hospital
San Mateo, California

• *Others also lacking box tops may send a dollar for the foreign language guide (for examination and history-taking of a non-English speaking patient) to: Reprint Department, Resident Physician, 1441 Northern Blvd., Manhasset, N. Y.*

### Correction

In the answers to the Mediquiz that came in the RESIDENT PHYSICIAN May issue, Volume 3, Number 5, it was stated that the correct answer to question 25 was "C."

Now, I believe that "C," which is "schistosomiasis of the brain," is

—Continued on page 36

# INCERT

***new... unique one-step additive vial saves time, labor and money in your hospital***

**NO AMPULES... NO NEEDLES ...NO SYRINGES**

Simply remove tamperproof cover of INCERT and push sterile plug-in through large hole in stopper of solution bottle. It's that easy... and a completely closed, sterile system.

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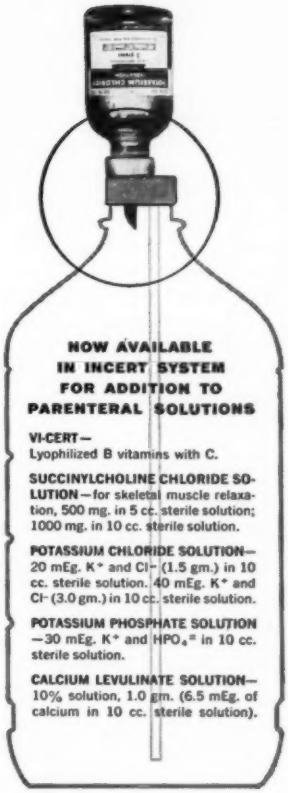

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**SUCCINYLCHOLINE CHLORIDE SOLUTION**—for skeletal muscle relaxation, 500 mg. in 5 cc. sterile solution; 1000 mg. in 10 cc. sterile solution.

**POTASSIUM CHLORIDE SOLUTION**—20 mEg. $K^+$ and $Cl^-$ (1.5 gm.) in 10 cc. sterile solution. 40 mEg. $K^+$ and $Cl^-$ (3.0 gm.) in 10 cc. sterile solution.

**POTASSIUM PHOSPHATE SOLUTION**—30 mEg. $K^+$ and $HPO_4^=$ in 10 cc. sterile solution.

**CALCIUM LEVULINATE SOLUTION**—10% solution, 1.0 gm. (6.5 mEg. of calcium in 10 cc. sterile solution).

**TRAVENOL LABORATORIES, INC.** MORTON GROVE, ILLINOIS

—Concluded from page 30

the last choice.

Working previously in a country that had 60 percent of its population infested with schistosomiasis (Bilhargiasis), and the last statistics recording 40 percent infestation, I do not recollect that the brain is ever the site where these worms can survive at all.

Furthermore, in heavily infested patients, it is the rule that one course of treatment is capable of eradicating the disease.

So, if this worm slipped into the brain, it would be very hard for it to escape the toxic effect of the drug.

In addition, suppose it was harboured in the brain, and suppose it was untouched by the toxic action of the drug; according to its span of life, it should die and degenerate much earlier than two years.

Consequently, if this veteran convulsed two years after being treated, his condition is now the result of something else than our Eastern worm.

Hundreds of pages, concerning the pathology of schistosomiasis are available on request. Thank you.

Fawzy Zaki Akhnoukh, M.D.
Pediatrics Resident
University of Tennessee
Memphis, Tennessee

• *Dr. Akhnoukh is correct. We thank him and other readers who brought this error to our attention.*

## Fordyce

I've been asking this question of residents and attendings. So far, no answer. Would you happen to know the origin and the completion of this statement:

"Dr. Fordyce was a coarse man, a poor lecturer . . . etc." Thank you for your trouble. I enjoy RESIDENT PHYSICIAN very much and though I'm sure you don't go in for literary lost and found, I hoped you might recognize the above quote for me.

R. S. Chadwick, M.D.
Redwood City, California

• *By happy chance we just happened to finish reading "Surgeons All," by Harvey Graham, M.D. (1957, Philosophical Library, Inc., New York). Dr. Graham quotes a description of "a physician of St. Thomas's Hospital" by the famous surgeon and lecturer, Astley Cooper, which would appear to be the quote you seek:*

*"Dr. Fordyce was a coarse man, a bad lecturer, got drunk every evening and Mr. Cline said, was not over careful about truth. He himself said he was the only Scotchman he ever knew that had entirely lost his native dialect, and this he would assert in the broadest Scotch it could be spoken in. His best paper was on 'Purgatives.'"*

Perrin H. Long, M.D.

# Editor's Page

## Those Costly Fellows

In May of this year, I attended the four-day session of The Federation for Clinical Research, The American Society for Clinical Investigation, and The Association of American Physicians at Atlantic City. About 3,000 doctors interested in clinical investigation were in attendance during one or more of the four days.

As I have been each year since World War II, I was again surprised at the youth of the majority of physicians in attendance, and also by the intensity of their interest in what was going on. Many of the young doctors present were residents or fellows in medicine in my own department or those of my colleagues.

During intermissions, before meetings began, and even while papers were being read, these young physicians (and some of those who were older) visited the booths of a score of manufacturers displaying the latest types of optical, electronic, isotope-counting and other very modern scientific apparatus. I was intrigued by the conversations between these doctors and representatives of the manufacturers, especially when I heard how fluent and glib many of these young physicians were relative to the construction, modification or use of these very complex instruments of clinical investigation.

While thus absorbed in "window shopping," my

thoughts shifted to my own period of internship and residency in the Boston City Hospital and the Thorndike, and to reflections concerning the equipment, and its cost, which I used in those days. Bureau of Standard pipettes were considered expensive, so we standardized our own pipettes. A centrifuge, a microscope, Kjeldahl apparatus, Van Slyke apparatus, Folin and Wu pipettes and tubes, a prism colorimeter, and glassware comprised the major items of equipment in the laboratory in which I worked. All told, I would guess that it took about a thousand dollars to equip that laboratory. (The Thorndike in 1924 was considered the latest in design and equipment.)

Today, thousands of fellows and residents use special centrifuges, microbalances, isotope-counting equipment, spectrophotometers, eight-channel recorders, electrical calculators the like of which were but dreams to mathematicians in 1925; equipment which costs hundreds or thousands of dollars. And as a chairman of a department of medicine who must justify large expenditures for equipment, I know who is asking for it: the fellows and the residents who will use it.

One hears it said that "equipment costs too much." On the contrary, one has to realize that cost what it may, the scientific advances in instrumentation over the past thirty years make clinical investigation today much more exciting, the results far more accurate, and more ground can be covered in a fraction of the time formerly used.

We are in an age in which development of scientific equipment is moving so fast that the advanced equipment of today probably will be obsolete tomorrow. Yet we cannot wait. These young residents, "these costly fellows," fortunately are never satisfied with today's instruments, but look constantly towards tomorrow. With such attitudes, instrumentation will constantly advance, and with it medical science.

Perrin H. Long.

**The non-profit Blue Cross and Blue Shield programs, pioneers in hospital and medical care prepayment, have had many problems. But with the continuing cooperation of doctors and hospital administrators, the Blues have come through with a remarkable record of service to the public and the profession**

# Birth of the Blues

**James E. Bryan**

Here is a patient with a regular hatful of problems. He's acutely ill. That alone is sufficient to worry any man. But he has money problems, too. Bills are piling up at home and, as he lays there in the hospital, he accumulates medical and hospital charges which threaten to wipe out his savings and mortgage his earnings for a long time to come.

As a physician, his worries are your worries. You are well aware that his morbid preoccupation with costs can seriously retard his recovery. You can't wish away his problems. He can't get them off his mind.

Who is this patient? Well, little more than ten years ago, this man beset by money worries was the *average* occupant of a private hospital bed—the rule rather than the exception.

Today, he is the rarity.

And one of the most important reasons for the difference between then and now is the successful effort by doctors and hospital administrators to meet the problem of hospital and medical costs.

Thanks largely to "the Blues"—Blue Cross and Blue

Shield—problems arising from the cost of medical attention are far less common and seldom as desperate and ruinous to an individual family as they were even a decade ago.

### Origin

Last year, the Blue Cross (hospital care) movement celebrated its 25th birthday. Most of the Blue Shield (medical and surgical care) plans are at least 10 years younger than their Blue Cross companion plans. But the origin of both Blue Cross and Blue Shield—like those of any massive social program—may be found a long way back into our history and folkways.

### Cash benefits

In our own country more than 100 years ago, certain insurance companies were writing policies to provide cash benefits for injuries suffered in railway or steamboat accidents. Gradually, these contracts were broadened to cover all manner of accidental injuries.

Since 1900, contracts offering limited cash indemnities for disability resulting from either sickness or injury have been available to "selected risks." (The phrase, generally speaking, was applied to those who needed such protection least and were best able to pay for it.)

In contrast to this restricted or "selected risk" approach in which benefits were limited to small cash awards and available only to preferred individuals, many European countries went "all out" with health insurance schemes.

Bismarck's Germany in 1883 set the pace with a universal compulsory tax-supported and government-operated sickness insurance program.

His plan was frankly set up as a political bait to lure the masses of German voters away from the "Iron Chancellor's" radical socialist opposition.

### Voluntary

Blue Shield and Blue Cross stand midway between the commercial insurance approach, limited as it must be to the preferred risk, and the

**About The Author**

Nationally known as consultant in medical administration, public relations and prepayment, the author has more than 25 years' experience in medical administrative work as executive secretary of the medical societies of New Jersey (state) and Westchester and New York (county). Mr. Bryan was administrator of New Jersey's Blue Shield Plan from 1950 to 1955. His authorship includes articles published in many of the leading medical journals as well as the book, "Public Relations in Medical Practice," Williams & Wilkins, *1954*.

governmental social security program in other lands that blankets everyone under a standard compulsory plan.

The Blues are trying to meet a social problem by voluntary methods —which is a particularly difficult thing to do in an age when nearly everyone is looking to the government to solve all his social and economic problems.

America's doctors and voluntary hospitals recognize a direct responsibility to our entire society, not just to those who can well afford to buy health insurance and who offer the best prospects for profitable underwriting.

Hence, Blue Shield and Blue Cross, reflecting the social objectives of the medical profession and our voluntary hospital system, seek to enroll the whole community—including most particularly the lower income people who though needing medical care are least able to pay for it.

## Services

The Blues seek to give the patient benefits in terms of medical and hospital *services*—rather than merely to provide *dollar* benefits that may have no relation to the cost of the care the patient has received.

The Blues are trying to fortify and preserve independent medical practice. They hope to wipe out every conceivable excuse for our government to come between doctor and patient—and to make unnecessary the kind of compulsory scheme which has been established in most other industrial countries.

The Blues have attempted to prove that doctors and hospitals and patients, working together, without tribute to government or profit to anyone else, can solve the medical problems of patients without creating insoluble financial problems.

## Insurance

What were the underlying factors that made health insurance in America inevitable? Here are some of them:

● *The growth of the idea of insurance.* We Americans have been surpassed only perhaps by our English cousins, in adapting the idea of insurance to all major hazards of life. We've learned how to protect ourselves against financial losses due to fire, storm, theft, injuries sustained by other people on our property, automobile accidents—and lately even the eventualities of unemployment and old age.

Our life insurance coverage per capita is by far the greatest in the world.

It was inevitable that medical care—the need for which is unpredictable and the cost incalculable—should somehow become insurable.

● *The evolution of modern medicine.* Fifty years ago, medical service consisted of the personal ministrations of a general physician who carried most of his instruments in a little black bag.

Hospitals were almshouses or places where people went to die, accepting the inevitable.

Today, the family doctor may bring to bear on his patient's problem the services of physicians from more than twenty recognized specialties; he may utilize x-ray and laboratory installations costing hundreds of thousands of dollars; and his patient will occupy a hospital bed that costs upwards of $25 a day to maintain.

To be sick these days is a luxurious enterprise; few people (including physicians) can afford to indulge.

The only way most of us can hope to pay our way is by sharing the risk with everyone else through a community-wide prepayment plan.

● *The growth of a "credit economy."* The economics of medical care is but a part of our whole economic complex in America. The tremendous growth of our mass production industry has been made possible not because our people have saved cash but because they've invested part of their earnings in industrial development.

Our high standards of living and mass consumption of goods have been based to a degree on people going into instalment debt, mortgaging their future earning power—not on people hoarding large amounts of cash to pay future medical bills.

Most Americans live quite comfortably these days on a hand-to-mouth cash basis, *so long as they can insure themselves against the principal hazards of life.*

But only very recently has medicine made available the same credit and prepayment devices that industry has been offering the public for many decades.

Insurance against medical care costs was inevitable because people find themselves unable to save the cash to pay these costs; they have demanded the same credit accommodations for medical costs that business and industry have extended for the costs of their goods and services.

## Cooperation

But to point out some of the powerful factors that have conspired to make health insurance inevitable for Americans does not explain how it is that we alone, among all the great industrial nations, have managed so far to develop a viable health insurance program by voluntary effort.

It was only in September of 1938 that the House of Delegates of the American Medical Association, meeting in extraordinary session, endorsed for the first time the principle of voluntary health insurance.

Their action was based on three urgent factors: first, Blue Cross had already proved that hospital care could be prepaid and that the people, in large numbers, wanted to prepay it; second, the "New Deal" and its liberal and labor adherents were boiling up a tremendous political pressure for inclusion of medical care in the new Social Security program; and, finally, the profession was at last persuaded that it would be best to "cooperate with the inevitable."

## Depression

As a general backdrop for this drama there lurked the memory—fresh, poignant and painful—of the Great Depression of the early '30's. Prior to this bitter time, the American doctor and hospital had never been much concerned with the ways and means by which their patients got the money to pay for medical care.

The doctor was interested primarily in the medical job to be done. He wanted to take care of his patient and he didn't want any third party getting into the act. On the other hand, of course, he didn't want his patients to suffer any severe economic privation due to their medical and hospital bills.

But the Great Depression brought poverty and disaster to big segments of almost every doctor's clientele. Families that had not known the meaning of insecurity were shaken loose from their moorings and plunged into dependency. Talented men who had held positions of great responsibility found themselves unable to work at anything better than raking leaves in a public park.

The doctor not only encountered tragic human waste and frustration among his patients, but he also suffered a catastrophic shrinkage in his professional income.

Not a few doctors became cab drivers, apple peddlers and book salesmen during the crisis.

The net impact of all these experiences and of the underlying economic and political pressures of the time was enough to convince most doctors and hospitals that they had to do something about the *distribution* of medical service.

Long before the doctors realized or accepted it, the general public had become convinced that the economy of medicine can and must be so organized as to avert the economic dislocations and the private financial catastrophes that were so frequently caused by illness.

## Coverage

Ever since the A.M.A. flashed the green light, 19 years ago, the Blues have been marching ahead. And America's commercial insurance industry has given them stand-off competition.

There are in fact three main types of prepayment or insurance mechanisms which in two decades have enrolled, in aggregate, more than 110 million people in the U. S.:

- *The Blues*—non-profit, doctor and hospital sponsored, community-oriented plans, most of which emphasize the provision of fully paid service for lower income people.
- *The insurance companies*—offering policies that provide stated cash allowances to selected groups and preferred individual "risks."
- *Local private plans* that employ "closed panels" of physicians on a salary or capitation basis, to provide usually a comprehensive scope of medical service for their subscribers.

In round figures, Blue Cross accounts for about 45 percent of the hospital insurance; some 800 insurance companies account for about 50 percent; and various independent plans, the remaining 5 percent.

About 40 percent of the surgical coverage is underwritten by Blue Shield; 55 percent by the insurance companies and 5 percent by independent plans.

About 50 percent of the medical (non-surgical) coverage is carried by Blue Shield; 45 percent by the insurance companies and 5 percent by the independents.

## Contract practice

The direct forerunners of Blue Shield in the U.S.A. appeared in the 1890's in the northwestern lumber and mining states, where large companies contracted with individual doctors to go into remote camps and provide a general medical service for their workers. Some companies then began to contract with groups of doctors to provide care on a prepaid or monthly fee basis.

As these "contract practices" grew, the medical societies in Washington and Oregon were alarmed to

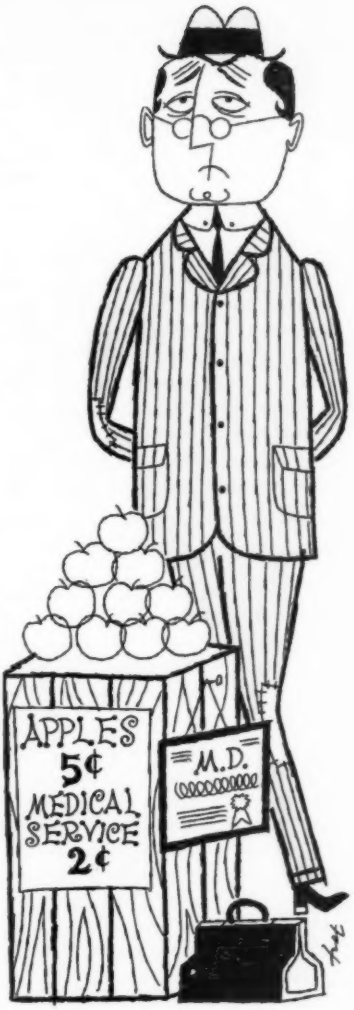
find that some of these arrangements had fallen into the hands of promoters who were bargaining with the doctors and exploiting the contracts for their own profit.

To combat this trend, the county medical societies in these states organized their own medical service bureaus which contracted with employers on behalf of the entire society membership, enabling patients to regain free choice of physician.

Many of these county medical service bureaus are still operating, and in Oregon most of them have merged into the Oregon Physicians' Service, a statewide Blue Shield plan.

The first typical Blue Shield-type plan was established in California in 1939 by the California Medical Association. The next year, the Michigan State Medical Society launched Michigan Medical Service. Both these pioneering plans ran into financial difficulties, because their subscription charges proved inadequate to support the scope of professional services offered, even on the sub-standard fee levels accepted by the participating physicians for the low income subscribers. The real demand for services turned out to be enormously greater than had been estimated, and to keep the plan going, the participating doctors had to accept "pro-rated" (or less-than-par) payments.

This illustrates one of the distinctive features of doctor-sponsored plans: participating physicians, by



voluntary agreement, actually underwrite the program, assuming the final responsibility for operating deficits should they occur.

The experience of California and Michigan was repeated in the early history of many other Blue Shield plans which might well have folded up if their physicians had not themselves insured their stability.

Blue Cross and Blue Shield unquestionably pioneered the great uncharted realm of hospital and medical care prepayment in America. They were able to survive the rigors and hardships of the early days because the doctors and hospitals stood behind them, knowing that the alternative could only be a governmentally operated universal sickness insurance plan.

**Popular need**

Should they fail now, the immediate alternative to Blue Cross and Blue Shield would be commercial cash indemnity insurance. But most students of voluntary health insurance, I suspect, would agree that the natural limitations of commercial insurance are such that it would not be accepted as a permanent answer to the popular need for medical care security.

The profit motivation inevitably leads to competition for the profitable segments of the public, while the less profitable segments are left to fend for themselves.

Many people in the lower income groups also clearly prefer to have benefits in terms of fully paid hospital and physician services, rather than to receive merely cash allowances that may be quite inadequate to pay their hospital and doctor bills. It is scarcely conceivable that the many hundreds of commercial companies in this field could persuade the doctors and hospitals to agree to accept payment on a "service benefit" basis on schedules over which they have no control; nor is it conceivable that the stockholders of these companies would relinquish their control to doctors and hospitals.

The hospitals and physicians, by their overwhelming support of Blue Cross and Blue Shield; and the public, by its remarkable acceptance of these plans, have shown that there is no need for a third party to come between them. No one has to create a market for voluntary medical care insurance; nor, as we have seen, is there a need for substantial risk capital to administer medical and hospital prepayment plans. Hospitals and physicians deal directly with their patients through their own Blue Cross-Blue Shield mechanisms; whatever surpluses remain after the year's transactions are closed, can be plowed right back into the service—in terms of broader benefits or better payments for the hospital and doctor. Hospital and medical care, after all, is a social service. Why make a private business of it?

Apart from having saved America's patients and her medical pro-

fession and voluntary hospital system from political management, what have the Blues done for us?

They have made it possible for the hospital and doctor to realize the economic potentialities of the actual markets for their services.

They have provided the hospital and doctor with a modern mechanism to stabilize their incomes and to be compensated for their services by great portions of the public who would otherwise be unable to pay for the services they need.

They have lifted these segments of the patient-public out of the category of medical indigents by enabling them to prepay their needs in partnership with millions of their neighbors.

They have brought into the service of hospitals and the profession a new corps of first class administrators to cope with the basic problems of medical economics.

They have brought the economy of medicine into line with our free twentieth century capitalist economy by adapting to medicine the consumer credit mechanisms that have made possible our unequalled standard of living in America.

Blue Shield and Blue Cross have no exact counterparts anywhere else in the world. The movement is in fact the envy of physicians and hospital administrators in most parts of the "free world" where they must contend daily with the whims and exigencies of political overlords.

A uniquely American contribution to social engineering, it is not too much to say that Blue Cross and Blue Shield have become one of America's best hopes for the future of her free society.

**Next month: "Inside the Blue Plans"**

## Gynecology Seminar

**The University of Texas Postgraduate School of Medicine will present a three-day seminar, "Current Trends in Gynecology," October 28-30, 1957.**

**No tuition is required of residents and interns.**

**The seminar, which will stress recent developments in the field of gynecology with particular reference to patient management, will consist of lectures, panel discussion and surgical demonstrations in the operating rooms of the University of Texas—M. D. Anderson Hospital and Tumor Institute. Guest lecturers will include Dr. Hans L. Kottmeier of the Radiumhemmet, Stockholm, Sweden.**

**Address your request for program information and application form to: Dean, University of Texas Postgraduate School of Medicine, 410 Jesse Jones Library Building, Houston 25, Texas.**

# Relatives are People, Too!

**It's pretty easy for any resident to snow the relative of one of his patients with technical mish-mash. But relatives are entitled to clear answers and careful explanations. The resident who takes the time and interest to help relatives of his patient will find he is also helping his patient and himself.**

**Norman Ronis, M.D.**

How many times have we heard it said by pediatric residents, "the kid's no problem, it's the mother we have to treat."

And occasionally we hear this remark made by learned physicians: "You don't treat the patient, you treat the entire family."

Both of these statements, though rather broad generalizations, have a significant element of truth to support them.

Yet, despite the advice of our superiors, we resident physicians often conclude that by ignoring the relatives or giving them a fast brush, we can get on with "our work" and save ourselves considerable time and aggravation.

I can remember as a clinical clerk in a large city hospital how the group of us used to make a game of clearing out of the ward before the visitors arrived.

We would hole up in the house staff lounge to avoid the inevitable and protracted question and answer session with relatives. We, of course, doubted the ability of these visitors to understand our answers to their questions anyway. What we didn't realize then was that their failure to understand was not entirely their fault, to say the least.

## Understanding

Now, five years and a great deal of experience later, I know how wrong we were. Our attitude was unfair, not only to the visitors but even more so to the patients they had come to see.

Actually, "unfair" hardly describes it. As most of us realize, it is extremely important that relatives of our patients cooperate with us. To do this, they must be encouraged to ask questions.

There are many examples which would illustrate this point. A single relative who does not understand the reason for a ban on food brought from the outside can unwittingly (and with the best of intentions) destroy a dietary regime by bringing in goodies that the patient should not have.

Also, relatives who are not given adequate explanations are prone to argue with everyone concerned. Through lack of knowledge is born a considerable amount of criticism. And the resulting resentment has an excellent chance of being reflected in a lowered quality of patient care.

Often visitors will resent the doctors whom they have never even seen simply because they do not understand and can find no one around willing to give them a moment to clear up their doubts.

The relatives' concern is often conveyed to the patient and frequently will shake the patient's confidence in the ward physician, his associates, and the nurses.

Certainly the bad results which emanate from our ignoring relatives are many and varied and should give us pause.

I suppose we should hope to err the least when it comes to the anxious parents of child patients. Yet it is true that the hard pressed resident may find it difficult to avoid adopting a defensive attitude in the face of the innumerable questions which are natural outgrowths of parental concern.

The pat answer, the stereotyped explanation, the quick technical description, rarely satisfy the discriminating parent.

If a mother wants to know why her child is so pale, or seems so tired, or feels so warm, it is not enough to answer: "Oh, that's just part of his condition," and abruptly turn away to avoid further questions.

Certainly few of us have a lot of spare time—either inside the hospital or out. And we are naturally reluctant to lavish very much of what we have on long detailed explanations.

Yet, it is not the long detailed explanation that is needed or wanted in most cases.

### Candor

I have found and I think you will agree that most people want straightforward candor from the doctor. The time-honored tradition of making a deep, dark mystery of things medical is or certainly should be dead and buried. A public exposed day after day to slick magazine popularizations of every medical problem from Ainhum to Zona can no longer be bought off cheaply with "oh, that's just part of his condition."

Actually, we as physicians should

welcome this change of attitude on the part of patients and patients' relatives; it is overdue by a few hundred years.

Depending on your specialty, there is a particular classification and manner of questions asked by relatives. For example, parents tend to put their questions in the specific terms of the classical who, what, when, where, why of the journalist. The only way of handling this kind of interrogation satisfactorily is to devote some time and considerable sympathetic patience to the question.

On the other hand, relatives of adult patients seldom ask their questions in nearly such detail. They generally say, "how is he doing?" This, in the case of someone who has been desperately ill, usually requires only a concise, but always candid and truthful, statement.

For instance, an answer which satisfies the relatives might be, "we are treating him for such and such which he has in a rather mild form. He seems to be improving very nicely."

Or, in another situation, "we found that she had a severely inflamed appendix which we removed. We are pleased with her condition and anticipate no complications."

Of course, it isn't always so simple. At times, we are faced with a sophisticated relative, frequently a wife who has a generous collection of disconnected bits of medical information. Her attitude reflects her opinion of herself to be: "housewife, magna cum laude, M. D."

Though not *laude* she is often loud.

This interesting lady whose interest is nothing but sincere and benevolent is prone to confront us with questions which to be answered at all would require a brief outline of embryology, a lecture on anatomy, followed by a short course in pathology with some pharmacology, medicine and surgery thrown in.

This kind of reply is obviously out of the question. But avoiding the issue is worse than no answer at all.

My own experience has taught me that the impossibility of a completely satisfactory answer must be placed squarely before this relative. To do this, it is difficult to avoid the implication that the relative is too stupid to understand. Actually, there is quite a difference between stupidity and the absence of training. But I have found that a reasonable person, after being told that the answer is highly technical "but simply stated is thus and so," will just let it go with a nod of the head and ask something else which usually turns out to be a more moderate and more answerable question.

## Remarks

I suppose the greatest disservice any of us can do our profession is to criticize the diagnosis or management a patient may have received at the hands of another physician.

Undoubtedly, errors of judgment will be brought to our attention by relatives.

But we have a definite duty to our colleagues never to be trapped into expressing criticism or scorn for what they may have done—no matter how wrong the other physician's act may appear to us.

It is good to remember that you seldom get all the facts and rarely get the unvarnished truth secondhand. Such remarks by patients or relatives must be parried by a comment on the individuality of medical practice and the fact that there are proper differences of viewpoint among doctors; and that all practitioners act with sincerity in the manner they believe to be best for the particular situation and patient they are attending at the time.

One of the most difficult things to accomplish with the point of view of explaining things to relatives—and to patients, too, for that matter—is to establish a spoken prose style which clarifies rather than confuses.

Admittedly, it is often difficult for us in our well-insulated world of academic medicine to realize that medical terms which to us are concise and meaningful are simply a jumble of unfamiliar sounds to the inquiring relative.

What kind of an answer is it when a relative asks, "Doctor, why is his skin so yellow?" to say, "well, he has an elevated serum bilirubin resulting from a cholangiolitic hepatitis?" And yet, with your ears open and in your hospital at visiting time, such thoughtless answers may be heard thirteen to the dozen.

Unless you know that the person asking the question is himself a physician or has a genuine knowledge of medical terminology, your course must be to assume that your explanation must be geared for someone who knows little or nothing at all about medicine.

Any mention of anatomy must be in clear, simple terms: voice box, windpipe, bowels, backbone, "that big bone in the thigh up here," etc.

Obviously, terms like "antero septal myocardial infarction" and "idiopathic thrombocytopenic purpura" have no place in such discussions. They mean everything to us. To the patient or his inquiring relative, they are gibberish.

Again on the matter of vocabulary; although we must be careful to use clear, simple terms, the "loaded" word has to be weeded out and discarded. We all know what the words are. But how very often we slip up and unnecessarily upset the people we are talking with—and in doing so brand ourselves "brutal, callous."

Such words as cancer, epilepsy, leukemia (alas! a household word), stroke, and dozens more must be used, if at all, only with the greatest caution and assurance that one's hearer is as objective and dispassionate as the resident—a rare occurrence.

**Effort**

There is one neat little device that saves time, avoids embarrassment, facilitates one's work, and spares the resident the effort of an explanation; that is to refer the inquiring relative to someone else.

The only trouble with this Elysian p r o c e d u r e is that it effectively wrecks the doctor-patient-relative relationship.

I suppose none of us would be anything less than furious if a television repairman, after several hours of intensive work on our set, blithely waved away a question with "if you want to know what's wrong and what needs to be done, call my boss. Maybe he'll tell you."

I think an important thing to remember is that any explanation offered in the often tense atmosphere of emotional strain associated with illness, no matter how clearly and simply stated, may not register. Understanding this, the resident should repeat his explanation as often as he feels is necessary in order to clarify the inquirer's ideas during the succeeding days of hospitalization.

In this way, the periodic progress report can be given with the background information that lends it dimension and genuine meaning.

**Experiment**

Try a controlled experiment. On one group of relatives explain the procedure involved using unclear technical lingo. Deliver your explanation impatiently and with an obvious lack of your own interest. Don't repeat your explanation.

On another group use simple, clear, sincere expositions, repeated p.r.n.

Then, assess the differences in attitude of relatives, patients, the cooperation of nurses and help, the ease of caring for the case. I'm sure you will find that the common sense, straightforward method is full of rewards; you'll realize that relatives really *are* people.

Though you would expect most doctors to gear their explanations, both in length and depth, to the inquirer and to the particular situation of the moment, this still remains one of the major pitfalls in the doctor-relative relationship.

Here is an actual example. A middle-aged woman was brought in with severe bleeding from an intracranial aneurysm. She was unconscious and practically in extremis. A large group of relatives was on hand within an hour of her return from the operating room. Since a tracheotomy had been done to insure an adequate airway, the doctor in charge explained in a lucid and sympathetic way exactly what the woman was suffering from and the necessity for the tracheotomy.

All ten people, including the husband, listened in rapt attention for about twenty minutes. Then the husband went to the phone where he was overheard explaining to another anxious relative: "Well, the

doctor says she had too much pressure in her head, so they made a hole in her neck to let it out, but it didn't do any good!"

Of course, in succeeding days with re-explanation, the misapprehension was straightened out. But at the time, the explanation *did* exceed the indispensable minimum and so failed in its purpose.

### Practicing physicians

Although other articles concerning the legal aspects of medicine have been taken up in RESIDENT PHYSICIAN, one point should be emphasized, one which as house officers we may tend to forget: we are considered practicing physicians and are as liable to involvement in legal tangles as anyone else. And such involvement can actually come from some seemingly innocent comments made to a patient's relatives. Of all the cautions, however, probably the most essential to remember is: *Don't make any promises or give any guarantees.* Temper your words with such little saving graces as "probably," "at the present time," "usually," "if all goes well," "in most cases of this kind," "as far as we know."

Any intern or resident who isn't familiar with the writings of Dr. Louis J. Regan would profit by going through some of his commentaries on medicine and the law.

We all fall into the trap of associating intellectual accomplishments in one field with at least basic knowledge of others. This is erroneous. Nuclear physicists are as ignorant of medicine as the average physician is of nuclear physics. Lawyers in general know no more about the location and function of the prostate than the average doctor knows of the laws of torts. And which of us has not had to deal with a relative who is also the exact scientist—the chemist, physicist or engineer—and who is at least mildly exasperated that in the face of a diagnosis of disease A, the administration of B milligrams of medication C has not produced the effect X in Y hours? He is usually a nice fellow, and conversation with him tends to be illuminating and rewarding, but he doesn't grasp the idea that medicine is a biological science and is hence *a priori* inexact.

An appeal to reason, sometimes coupled with one's own views on the inexactness of biological sciences, usually sets things to rights again.

### Attitude

The matter of attitude is hard to deal with in words, but it can make all the difference between success and failure in contact with relatives. No matter how warm, sympathetic and patient a resident may be, an obscure, technical explanation is worthless. Conversely, the clear, simple, readily understood explanation is lost if it is delivered in an offhand, cynical, cold manner.

One final thought: be as objective as possible about this business of

dealing with the patient's relatives. Don't get on the defensive; nothing will make a relative more antagonistic.

Deep down inside, you may be worried silly about how the case is going, but don't let that uncertainty come through. For the relatives' consumption, you are at all times the master of the situation and they expect you to reinforce the idea in them.

Try to establish and maintain a good working rapport with the patient's relatives as well as with the patient himself, and you will earn honor and respect for yourself, your hospital and your profession.

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"We won't need you now, Doctor . . . He's better."

Dean A. Clark, M.D.

# Guest Editorial

## Capital and Teaching Costs of Hospitals

To complete the newest building at The Massachusetts General Hospital, the Warren Building, the trustees considered the activities to be housed there (offices and laboratories, and eventually, space for private patient beds) of such great importance that they made a momentous decision: for the first time in the hospital's 135-year history, to borrow funds for a capital purpose.

This decision illustrates well the situation of American hospitals today. On the one hand, personally or through Blue Cross and other insurance, patients are perfectly willing and, for the most part, able to pay for their care in a general hospital. On the other hand, hospitals are faced with what seems to be a permanent inflation of wages which, along with a constant increase in complexity of service owing to advances in medical science, makes hospital costs rise faster than payment for them can be arranged.

This is a curious, and virtually unprecedented situation. Here we are, with a very active general economy

DEAN A. CLARK, M.D.

General Director
Massachusetts
General Hospital

and with medical discoveries that offer better medical and hospital treatment than ever before and yet many teaching hospitals and medical schools are running large deficits. Moreover, very few of them have funds for improvement and modernization of their plants or for making life tenure appointments—the lifeblood of teaching institutions—or other long-term commitments.

While productive manufacturing and agricultural enterprise has been able to absorb a good deal of the increased cost of materials and wages over the past twenty years through even sharper increases in productivity per man hour, this is very difficult for service industries, like hospitals, hotels, and barber shops, to achieve. But service industries must raise wages to compete with those of productive enterprise and must, of course, pay the increased prices of all the goods they purchase.

Consequently, as forecast by Ray E. Brown, Superintendent of the University of Chicago Clinics, when he was President of the American Hospital Association in 1956, it seems likely that hospital costs will rise about five percent per year indefinitely.

Thus we may expect continuing problems in hospital finance in general. There are two particular aspects of the problem, however, which deserve special attention: capital costs for all voluntary general hospitals and the special educational costs of voluntary teaching hospitals.

It is true that capital needs have in part been met through the very farsighted and well administered federal Hill-Burton Act. But even under Hill-Burton, it is necessary for hospitals to raise matching funds and this is not always easy. What we have not openly admitted is that, with or without Hill-Burton, hospitals always have a need for capital funds, like any other enterprise.

Hospitals' capital needs, moreover, are by no means limited to the replacement of worn-out buildings and equipment but include also constant modernization because of advances in medical science and constant enlargement because of the increasing use of hospitals by the public and because of the increasing size and age of the population itself.

The problem of meeting capital needs has arisen largely from the tradition in this country that the construction, equipment, and endowment of hospitals is paid for by philanthropy through gifts, bequests, and special drives for funds. The trouble now is that these sources are markedly reduced in proportion to the need and, by virtue of the world political and economic situation, appear unlikely to be increased again in the foreseeable future.

What is needed, it seems to me, is open recognition of this fact by the community (local, state, and national) and provision of some systematic method for hospitals to accumulate capital regularly, as is done by any successful business. A very slight beginning along this line has been made by hospitals which charge an amount for "depreciation." But this is far from universal and is often discouraged by refusal on the part of large purchasers of hospital care, like Blue Cross or government agencies, to pay such a charge.

As to the problem of meeting the special educational costs of voluntary teaching hospitals, it too has arisen in part from tradition—the tradition that interns, residents, and student nurses, among others, pay for their education by the service they give to patients. This may once have been true in the days when hospital care and education in these fields was much simpler than it is now, but it is certainly not true any more. It would be fair to estimate that from 5 to 10 percent of a teaching hospital's operating budget (excluding research) is for the direct expense of education.

These are not truly costs of hospital care at all. Yet,

traditionally, they have been met either by philanthropy or by the sick person in a hospital bed. Why should an unfortunate person, who certainly has enough of a problem to pay for the true cost of his care alone, also be obliged to pay for the education of the country's future doctors, nurses, social workers, dietitians, and the rest?

This is all the more unfair in that these educational activities, which are designed to benefit the whole country, are confined to about one-sixth of the country's almost 7,000 general hospitals.

The approximately 1,000 teaching hospitals are those which, first, have hospital schools of nursing. Secondly, about 800 of these same hospitals have approved internships and residencies and, thirdly, 100-125 of them also actually have medical students on their wards. By and large, the education of members of the other health professions such as social workers, dietitians, technicians, and so on, takes place in the same hospitals.

If the community wants to have a sufficient quantity of highly qualified physicians, nurses, and others in the future it must find a way now to finance their education, otherwise the voluntary teaching hospital might become a thing of the past. It will either close its doors entirely (a good many hospitals have already closed their schools of nursing and virtually no new hospital schools of nursing have been started in the last twenty-five years) or it will cease to be an educational institution and become simply another community hospital.

Whatever method of meeting the educational costs of these hospitals is found, it clearly must not depend upon payments by hospitalized individuals nor upon sporadic philanthropy. Properly, it seems to me, the whole community should be called upon. For example, tax-supported welfare department payments should include special amounts for educational costs instead of specifically excluding them, as happens now, in effect, in Massachusetts through the ceilings put on payments by the Commission on Administration and Finance.

The same principle should apply to other purchasers of hospital service with a broad community base such as Blue Cross, Blue Shield, commercial insurance, the Red Feather and to the allowance for indirect expense on research grants from federal agencies, voluntary health organizations, and foundations. All of these agencies have a huge stake in the future availability of doctors, nurses, and so on, to provide service for their clients, subscribers, policyholders, or for research. It seems reasonable, therefore, that they should help finance the education of these professions.

Another obvious possibility, although not a popular one, is direct tax subsidy. As regards the Federal government, such a subsidy might, nevertheless, be justifiable on two counts: First, because the nation's whole population required medical care but the education of those who can provide it must necessarily be concentrated in relatively few institutions and therefore the whole nation might reasonably be asked to assist these institutions and, secondly, because although the various Federal agencies, such as the Armed Forces, Public Health Service, and Veterans Administration, use thousands of physicians, nurses, and others, they produce not a single one.

Somewhat similar considerations apply to the idea of direct tax subsidy for teaching hospitals from state and local government, although perhaps not with the same cogency.

In sum, the problems of providing capital funds for hospitals and of paying for the educational costs of teaching hospitals should be faced squarely and recognized for what they are: problems not of the hospitals alone, but of the whole community.

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# Massachusetts General Hospital

**One of a series on leading resident centers**

Teamwork in surgery at MGH

**Major teaching affiliate of the Harvard Medical School, the 900 bed, nonprofit 'Mass General' has long been a pioneer in hospital and medical services. Its 15 residency training programs provide board approved experience for a resident staff of 125 physicians. Nearly 200 research and clinical fellows are currently on MGH's active medical staff.**

The Massachusetts General Hospital, the third oldest voluntary nonprofit hospital in the United States and the oldest in New England, received its charter of incorporation in 1811.

The cornerstone of the original building was laid July 4, 1818. This building is of Chelmsford granite and was designed by Charles Bulfinch. The Bulfinch building has been in continuous use ever since its opening, and while the interior has been modernized to meet present day demands, great care has been taken to preserve the original beauty of the structure which stands with Faneuil Hall and the State House as fine examples of the work of a great American architect of the 18th Century.

The first patient was admitted to the Massachusetts General Hospital in 1821 and for well over a century the Hospital has maintained a standard of service which has enabled it to hold a place among the leading hospitals of the world.

Members of the medical and administrative staffs have made contributions to the improvement of the care of the sick which are of far-reaching significance.

## Location

The Massachusetts General Hospital is located in the West End of the city of Boston, overlooking the Charles River and Storrow Drive. Centrally located, the hospital is easily reached by public transportation and main highways.

## Objectives

The objectives of the hospital are to care for the sick, to provide for the training and teaching of future doctors, nurses, and other professional workers in the health field, to encourage methods of preventing disease, to foster research, to extend the hospital's services into the community, and to assist the disabled to independence through rehabilitation.

MGH is administered by a general director and a board of twelve trustees, four of whom are appointed by the governor of the commonwealth; the others by election of the hospital corporation, which is a self-perpetuating body of more than 60

The Bulfinch building, erected in 1821, was the original structure of MGH.

members meeting annually.

Staff members have advisory functions through the general hospital committee, the general executive committee, surgical executive committee, medical executive committee, research committee, Baker and Phillips House (private services) committees, scientific advisory committee, and advisory committees to the school of nursing, social service department, volunteer department, and library.

The general director delegates responsibility and authority, as necessary, to the administrative committee and to department heads, such as those of nursing, housekeeping, maintenance, pharmacy, laundry, social service, and dietary. Each head of a department delegates responsibility and commensurate authority down through the various echelons in the department.

## Hospital statistics

The hospital today has 900 beds. In 1956, 22,674 patients were admitted to the hospital. To its 45 clinics come more than 615 patients each day; and an average of 80 persons are admitted to the emergency ward daily.

Last year the hospital gave free service amounting to $1,916,711 in value including trustee income from endowment, and $182,706 contributed by the Community Fund.

The total operating expenses of the hospital in 1956 were $11,101,736, exclusive of research. Apart from the running of the hospital the cost of research was $2,634,426, and this money came from foundations, government agencies and individual gifts.

More than 4,000 people contribute to the care of patients including professional staff, other personnel, trus-

All spruced up for a picture, this Bulfinch ward was photographed some sixty years ago.

tees, and volunteers.

The hospital's physical plant has altered from a single building to more than twenty today, each designed and equipped for its particular function. These include the Bulfinch building (1821), the original hospital now used for medical wards; the Clinics building (1903), forty-five general and specialty clinics for ambulatory patients, operated jointly with the Massachusetts Eye and Ear Infirmary; Phillips House (1917), the private pavilion; Baker Memorial (1930), private and semi-private accommodations; the George Robert White building (1939), administrative offices, surgical beds, operating rooms, x-ray facilities, emergency ward and overnight ward; the research building (1951), research laboratories for the study of diseases of the aging, such as heart disease, arthritis, and cancer; and the Warren building (1956), the building in which are located the pathology department and the clinical and research laboratories of neurology, neurosurgery, psychiatry, and dermatology.

In the Vincent-Burnham building (1947) are located the Burnham Memorial for Children and the Vincent Memorial Hospital. The latter, a separate corporation, is intimately associated with the Massachusetts General Hospital and provides its gynecology service.

### MGH and Harvard Med

The Massachusetts General Hospital is the original teaching hospital of the Harvard Medical School. Until 1870 the Harvard Medical School was located next door to the hospital on North Grove Street. The affiliation between the Hospital and the Medical School, begun in

The George Robert White building, 1939 (left) and the Bulfinch building.

1821, has continued to be a vital one in the field of medicine.

The chiefs of service at the hospital hold joint appointments as professors at the Harvard Medical School, and many other hospital appointments are made jointly or concurrently with Harvard. Almost half of the clinical teaching of Harvard Medical School is done at the Massachusetts General Hospital and the Massachusetts Eye and Ear Infirmary.

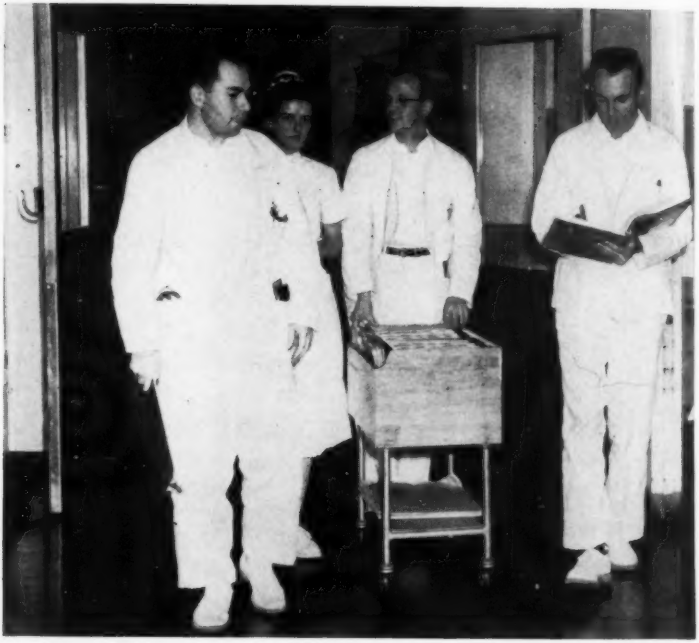
**School of nursing**

The school of nursing is an integral part of "Mass General." The School is responsible for teaching five separate groups of nursing students. The three-year diploma program was founded in 1873. The school also provides instruction for nursing students in the Radcliffe College—Massachusetts General Hospital Coordinated Program under which the students receive first their A.B. degrees at Radcliffe and two years later their MGH nursing diplomas.

In addition, the school provides clinical instruction for affiliating students from Simmons College, the McLean Hospital School of Nursing and several other schools for brief periods. It also undertakes postgraduate nursing education for Boston University; and furnishes nursing instruction for the practical nursing students affiliating from the Household Nursing Association School for Practical Nursing.

In addition to medicine and nurs-

The new Warren building, link between Massachusetts General Hospital and the scientific resources of Harvard University and Massachusetts Institute of Technology.



The MGH resident begins a typical hospital day with morning rounds.

ing, educational programs are carried on within the hospital for many categories of workers in the various health fields. A few of the twenty different formal educational programs offered are courses for medical social workers, students in pastoral care, dietetic interns, medical illustrators, laboratory technicians, occupational therapists, physical therapists, and x-ray technicians. The programs are conducted in most cases jointly with other educational institutions such as Radcliffe and Simmons Colleges, and Boston and Tufts Universities.

There are nineteen institutions affiliated with the hospital and approximately 1,000 students including medical students, interns, residents, and student nurses enrolled in the various educational programs.

## Pioneering

Through the years Massachusetts General Hospital has pioneered in

many medical and health fields. To mention just a few: The first public demonstration of ether as an anesthetic was performed in 1846 in the "Ether Dome" of the Bulfinch building, the original hospital. Twenty-seven years later, in 1873, the hospital opened the third school of nursing in America. In 1905 the hospital inaugurated the first medical social service department in a hospital.

From the early records of MGH it is interesting to note that it was originally contemplated to have two house officers: the apothecary, to be the medical man, and the house surgeon. In 1821, just before the first patient was admitted to the Massachusetts General Hospital, there was only one house officer. In order to be eligible for the position of apothecary, as he was called, the individual must have completed one year of medical school. He was nominated to the position by the acting phy-

A part of each morning is spent in the outpatient clinics.

The MGH resident takes his turn in the emergency ward.

sician and acting surgeon.

His duties consisted of purchasing and caring for all drugs and surgical instruments, administering medicines, and performing duties as ordered by the physician and surgeon. A year later he also visited patients twice daily, kept records, and handled emergencies in the absence of the surgeon and physician.

In 1830 provisions were made for a house surgeon and physician; the apothecary became the pharmacist and no longer took care of patients. However, the prerequisite of one year of medical school for the house surgeon and house physician was not increased to two years until 1856. And it was not until 1924 that without exception house officers were required to be graduates of a medical school.

As the hospital grew in size and its reputation spread, medicine became increasingly complex. Naturally, the requirements for residents changed also.

### Today's resident

Massachusetts General Hospital provides resident programs for approximately 125 young men and women each year. These physicians have had at least a year of intern-

**MASSACHUSETTS GENERAL HOSPITAL**

| SERVICE | CHIEF |
|---|---|
| Medical Services | Walter Bauer |
| Dermatology | Chester N. Frazier |
| Neurology | Raymond D. Adams |
| Psychiatry | Erich Lindemann |
| Children's Medical | Allan M. Butler |
| Surgical Services | Edward D. Churchill |
| Anesthesia | Henry K. Beecher |
| Gynecology | Howard Ulfelder |
| Neurosurgery | James C. White |
| Orthopedic Surgery | Joseph S. Barr |
| Urology | Wyland F. Leadbetter |
| Dentistry | David Weisberger |
| Pathology | Benjamin Castleman |
| Radiology | Laurence L. Robbins |
| Physical Medicine | Arthur L. Watkins |

ship here or elsewhere prior to their appointments to the resident staff.

The residency, through active daily participation, carries with it a program of increasing responsibility. It is extended to the patients, and also to the teaching of junior residents, Harvard medical students and, in many cases, of student nurses, dietetic interns and social service students.

As has been said, Massachusetts General Hospital is closely affiliated with the Harvard Medical School. Since all the General Hospital beds are available for undergradute teaching, the resident staff is in close contact with the undergraduate medical student daily. The care of the ward patient is the province of the resident who throughout his period of training becomes increasingly aware of his responsibility to the patient, the visiting staff and the hospital. As a part of his total experience, the resident also assists in the care of private patients.

As medicine becomes more specialized, the length of training becomes longer and more complex. Nevertheless, the number of applicants seeking resident appointments at MGH generally exceeds the number it is possible to accept.

Today there are fifteen residency programs. Services which have resi-

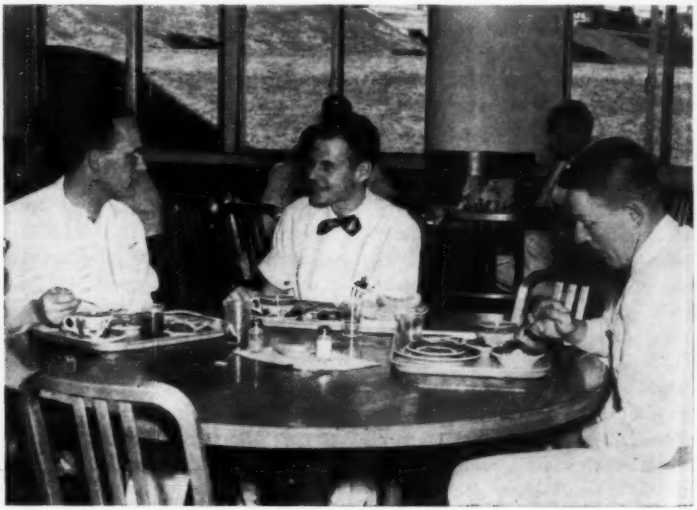
dents are general medicine, dermatology, neurology, psychiatry, children's medicine, general surgery, neurosurgery, anesthesia, orthopedics, urology, pathology, neuropathology, radiology and dentistry.

The length of time a resident remains at the hospital is dependent upon his field and his previous training. Each service has its individual requirements regarding past experience and the duration of its program. For example, a residency in dermatology is of three years' duration. However, the individual physician may be at MGH a shorter time if he has had, in addition to his internship, residency training in another hospital. Surgical residents, on the other hand, usually complete the full four years at the hospital after internship and a resident in medicine usually stays three years.

There are approximately 500 doctors on the active staff of the hospital; more than 125 residents and interns; and some 200 research and clinical fellows from the United States and 46 other countries around the world.

## Library

The Treadwell Library which will observe its 100th anniversary in 1958 is located in the Moseley building.



Food, philosophy and professional conversation come together in hospital dining room.

This medical reference library contains about 20,000 volumes. Interlibrary loans are easily available from such nearby resources as the Harvard Medical School Library and the Boston Medical Library.

### Chapel

The hospital chapel, centrally located off the main corridor, is nondenominational and open at all times for meditation or private devotion.

### Distaff Club

The Distaff Club is composed of the wives of the house staff and the women members of the house staff. Through the activities of the club, the members become better acquainted with each other and with the hospital. The Club program includes teas, lectures, and a variety of social and hospital projects in which the members participate.

### Recreation

In the hospital, the house staff penthouse on the top floor of the White building is an ideal place for relaxation and entertainment with its television, radio, record player and record library, facilities

**At the annual MGH staff reception, residents and their families have an opportunity to meet other members of the hospital's professional staff.**

for parties and entertaining, and a sizable library of non-medical books. This attractive suite was furnished by the members of the Staff Wives Association. There is also a lounge on the fourth floor of the Moseley building; and for those who enjoy tennis the hospital has its own courts.

Members of the house staff may take advantage of the great variety of cultural and recreational diversions to be found in Boston. At every corner, echoes of early American history greet the newcomer. Several museums, including the Museum of Fine Arts, Museum of Science, the Institute of Contemporary Art and the Isabella Stewart Gardner Museum, contain valuable and varied collections.

Being the site of the traditional tryouts for Broadway shows, the city has five theatres. Boston also offers opera, ballet, the world-renowned Boston Symphony, the famous "Pops" and Esplanade Concerts.

During the summer, athletic enthusiasts find opportunities for bathing, fishing and sailing at convenient shores, while the first signs of winter call ski lovers to the nearby slopes. For the spectator, major league baseball, basketball, and hockey as well as college sports offer exciting entertainment.

"Is this A.C. or D.C.?"

# Clinico-Pathological Conferences

## Massachusetts General Hospital

From "Case Records of the Massachusetts General Hospital," edited by Benjamin Castleman, M.D. and Miss Virginia W. Towne, and published regularly in the *New England Journal of Medicine*, this month's conferences in *Resident Physician* also appear in the current issue of the *New England Journal of Medicine*. We thank the editors of the *New England Journal of Medicine* for allowing *Resident Physician* the privilege of concurrent publication.

CASE 43372. A fifty-two-year-old textile worker entered the hospital because of weakness of the legs.

Six years previously he noted the onset of a dull, "nagging," non-radiating pain in the midportion of his back; it was aggravated by movement and by long hours at work and was relieved by a day or two of rest and immobility. At the same time his legs began to tire easily and he was aware of a tendency to stub his toes when he walked.

Several months later he was admitted to another hospital where x-ray films of the lumbar spine demonstrated destructive changes in the neural arch of the first lumbar vertebra. A biopsy specimen of the lamina of this vertebra showed chronic osteomyelitis. Subsequent x-ray films of the lumbar spine over a period of two months revealed no change.

During the next year the patient was placed in a series of body casts. The pain in the back subsided and the legs seemed to function more efficiently. Except for occasional episodes of diarrhea he remained well until one and a half years later when he fell and struck the buttocks. Thereafter the legs became progressively weaker and the gait unsteady. Six months before entry he could no longer climb stairs. Paresthesias of the legs and

occasional stabbing pains in the anterior portions of the thighs were noted during the three months before admission. He also became sexually impotent and on occasion, incontinent of urine, with urgency and frequency.

## Examination

Physical examination revealed a well nourished man with a broad stance. The gait was unsteady with a "steppage" quality. Examination of the spine showed a healed surgical incision in the region of the first lumbar vertebra. There was tenderness over the spinous processes of the eleventh and twelfth thoracic and first lumbar vertebras. Mild atrophy and weakness of the lower extremities were noted. There was a slight decrease in perception of pain, temperature and touch throughout both lower extremities up to the level of the twelfth thoracic dermatome. A marked decrease in these sensory modalities was noted over the distribution of the third and fourth sacral dermatomes. The knee and ankle jerks were diminished bilaterally. The plantar responses were extensor. Rectal examination was negative.

The temperature was 99.2°F., pulse 104, respirations 20; blood pressure was 120 systolic, 80 diastolic.

The urine was normal. Examination of the blood revealed a hemoglobin of 16.2 gm. per 100 ml. and a white-cell count of 15,400, with 74 percent neutrophils. The sedimentation rate was 40 mm. per hour. The calcium was 9.9 mg. and the phosphorus 3.2 mg. per 100 ml. Total acid phosphatase was 1.7 units, the prostatic 0.3 unit, and the alkaline phosphatase 4.2 units. The blood Hinton test was negative. Salmonella and Brucella agglutination tests were negative. The tuberculin skin test (PPD 1:1000) was positive. The histoplasmin skin test was negative. A stool specimen was brown and gave a negative guaiac test; a culture was negative for enteric pathogens. X-ray films of the spine demonstrated an irregular sclerosis of the body of the first lumbar vertebra and to a lesser extent of the bodies of the twelfth thoracic and second lumbar vertebras; the posterior margin of the body of the first lumbar vertebra appeared eroded, and there was partial erosion of the spinous processes of the first and second lumbar vertebras with overlying calcified matter *(Fig. 1)*; a paravertebral soft tissue swelling was noted in the lower thoracic and probably in the upper lumbar regions; the psoas shadow was indistinct on the right and not seen on the left *(Fig. 2)*. A chest film showed minimal hypertrophy of the left ventricle and elongation of the aorta.

## Lumbar puncture

A lumbar puncture in the interspace between the third and fourth lumbar vertebras yielded cerebro

Figure 1. Lateral view of the spine revealing alteration of the trabecular pattern in the twelfth thoracic and first and second lumbar vertebras. The intervertebral spaces are preserved in the presence of destruction of the neural arches. There is calcification in the mass overlying the partially destroyed vertebra. Iodized oil demonstrates a sharp block at the level of the second and third lumbar vertebras.

spinal fluid that was at first clear and colorless and then slightly xanthochromic and slightly cloudy; the initial pressure was equivalent to 80 mm. of water, with jugular compression the pressure rose to 300 mm. and then slowly fell to 180 mm.; the fluid contained 21 red cells and 2 white cells with 1 lymphocyte and 1 neutrophil per cu. mm.; the total protein was 177 mg. A myelogram demonstrated a complete block at the level of the interspace between the second and third lumbar vertebras; the lower lumbar region was normal. A

cisternal puncture yielded clear, colorless cerebrospinal fluid, with a total protein of 20 mg. per 100 ml. The temperature was normal except for an elevation of 101.4°F. on the fifth hospital day. Thereafter it gradually returned to normal.

An operation was performed on the seventh hospital day.

## Differential diagnosis

*Dr. Vernon H. Mark*:* May I see the x-ray films?

*Dr. Conway J. Don:* Previous films on this patient are not available. Films of the thoracolumbar spine on admission show involvement of three adjacent vertebras, the twelfth thoracic and the first and second lumbar. The normal trabecular structure of the vertebral bodies is largely replaced by an osteolytic and osteoblastic reaction *(Fig. 1)*. There is some compression of the body of the second lumbar vertebra. The neural arches of these vertebras have been largely destroyed, and the transverse processes of the first and second lumbar vertebras are also involved. The intervertebral spaces, however, are preserved.

In addition, there is a soft tissue paravertebral mass with bulging of the psoas shadow on both sides *(Fig. 2)*. In the lateral view there seems to me to be calcification in the soft tissue mass, even apart from the remnants of destroyed neural arches. The myelogram merely shows a sharp block at the lower level of the lesion. This mode of termination suggests an extra medullary or extradural lesion. The salient radiologic features seem to me to be the soft tissue mass with calcification, the combined osteolytic and osteoblastic reaction involving both vertebral bodies and neural arches and the preservation of the disk spaces.

*Dr. Mark:* The problem is to determine the site and the nature of this patient's disease. The changes in the vertebras on the x-ray films, the localization of the complete block by myelogram and the negative findings on cisternal puncture would appear to place the pathologic process in an area whose lower level was between the second and third lumbar vertebras and whose upper level was in the lower thoracic region.

Also, on the basis of the neurological findings, I think that the upper extension of spinal cord involvement must have been at least into the lower thoracic region.

The pathologic process must have been related to the corticospinal tract to have produced an extensor plantar response since interference with the motor pathways in the cauda equina causes a flaccid muscle weakness, hypoactive reflexes, and a reduced plantar response.

A bilateral sensory deficit up to the twelfth thoracic dermatome is

* Assistant in medicine, Massachusetts General Hospital.

also reported. Even in this compact portion of the spinal cord, a lesion producing such a sensory level is usually located several segments above the highest level of sensory loss.

Historically[1] this fact almost made Sir Victor Horsley give up his search for the first successfully removed spinal cord tumor. It was only his frustration at not finding any lesion and the repeated urging of his assistant, Mr. Ballance, that caused him to explore at a higher level and discover the tumor.

## Process

The nature of the pathologic process is more difficult to determine. The chronicity of the patient's disease is striking. He noted dull, nonradiating pain in his back and some beginning leg weakness six years before admission. X-ray films of the lumbar spine demonstrated changes in the first lumbar vertebra a few months later; a biopsy revealed chronic osteomyelitis. During the next twelve months, he was immobilized in a series of body casts with a subsidence of back

Figure 2. Anteroposterior film of the spine demonstrating a soft tissue mass, and osteolytic and osteoblastic destruction of the vertebral bodies.

pain and improvement in leg function. He remained well for one and a half years thereafter.

The disease process that fits this historical mold is tuberculosis of the spine. This may have its primary site in the arches of the vertebras even though its usual origin is in the vertebral bodies; compression of the spinal cord and nerve roots can occur[2]. The treatment used in this case is that used in many cases of Pott's Disease, namely, immobilization of the diseased vertebras. Finally, the fact that the patient improved under this treatment is further evidence in favor of this diagnosis.

Arthritis deformans affecting the vertebral column can produce a similar picture, often with changes in the bodies and arches of the vertebras and in the articulations. This affliction may involve only a few vetebras or the greater part of the spinal column. There is marked pain and stiffness in the back, but cord symptoms are relatively infrequent. The common site of involvement of the nervous system is the intervertebral foramens, where compression of nerve roots is caused by new bone formation. Kümmel's disease is characterized by atrophic changes in one or several vertebras. It usually occurs after trauma and may result in a gibbus deformity producing angulation of the vertebral canal with root and cord compression. Paget's disease may give a very similar clinical picture but the characteristic roentgenologic findings in the vertebras and other bones easily differentiate this from a tuberculous process.

## Lower spine

About three years before admission the patient fell and struck his buttocks; thereafter, he had progressive symptoms of lower spinal cord and cauda equina compression. These included root phenomena, such as paresthesias of the legs and occasional stabbing pains in the anterior thighs, progressive leg weakness, and urinary incontinence. The neurologic signs on admission, the changes on the x-ray films, the demonstration of complete block by myelogram and the nature of the spinal fluid above and below the block are further evidence of a pathologic process in the lower spinal canal. The question now to be answered is whether the disease treated by immobilization had become active again or whether a new process had appeared.

There are many factors in favor of the interpretation that the previous inflammatory process was causing the syndrome on admission. The roentgenographic findings—sclerosis of the body of the first lumbar vertebra, a soft tissue shadow in the lower thoracic and upper lumbar region and an indistinct psoas shadow on the right and none on the left—together with a positive tuberculin skin test, are compatible with the diagnosis of

Pott's disease. Root pains may exist for years as the only symptom of Pott's disease. The spinal cord, according to Elsberg,[2] is involved in anywhere from 3 to 18 percent of patients. Tuberculous disease of the cord itself is very rare although a few cases of single or conglomerate tubercles have been described. Tuberculous abscesses or masses of granulation tissue on the outer surfaces of the dura are frequent; also the dura may be markedly thickened so that the spinal cord is compressed giving symptoms very much like that of a spinal cord tumor. The spinal cord can also be compressed by deformity of the bony spine, by bony collapse, or by formation of the new bone, which causes a marked narrowing of the spinal canal. A chronic adhesive arachnoiditis can also occur in association with tuberculosis of the spine and can give symptoms of root and cord compression. On myelogram, however, it is not unusual for pockets of the opaque material to be trapped in the diseased region giving us a somewhat different picture than was seen in this case. Also against the diagnosis of Pott's disease is the absence of roentgenographic changes in the disk spaces in the presence of profound evidence of neural arch destruction and sclerosis of the bodies of the involved vertebras.

## Epidural

Heusner[3] in his paper on non-tuberculous spinal epidural infections, sharply differentiates the chronic syndrome of spinal cord compression, as presented by this patient, from the more acute cases of epidural abscess in which the epiphenomena of sepsis are more striking. In his twenty cases of epidural infection, the longest period of symptoms referable to the spine before operation was sixty days. Mixter and Smithwick[4] had one case of *Staphylococcus aureus* epidural abscess and pachymeningitis secondary to sepsis in the finger, with symptoms for one year. But, in general, osteomyelitis of bacterial origin with general toxic symptoms and pyogenic foci elsewhere is not likely to be misinterpreted as the condition that this patient presented. Other chronic inflammatory processes that might cause a similar syndrome are statistically uncommon. Coccidioidomycosis usually presents the picture of disseminated disease before the spinal cord is involved. Actinomycosis may cause intraspinal abscesses, but the process is usually more acute than the one with which we are dealing.

## Extradural

The majority of extradural cysts recorded in the literature have been dermoids or echinococcal cysts. They are usually small and not associated with bony changes such as was seen in the case under discussion. Hyperplastic pachymeningitis of unknown etiology usually oc-

curs in the upper thoracic or cervical region, and also is not accompanied by bony changes. The rare occurrence of a gumma simulating a tumor in the region of the cauda equina has been reported by Ray.[5] That patient had a negative blood Wassermann test, and progressively increasing signs and symptoms of a lesion in the cauda equina for a year. At operation, a firm rubbery yellowish-white mass measuring about 2 cm. in its widest diameter appeared to arise in one of the main roots on the left side of the cauda equina; at least five or six adjacent roots were firmly fixed to the mass. The gross differentiation in this case between a gumma and a tuberculoma was impossible, but the spinal fluid Wassermann test was positive and skin tests for tuberculosis were negative. This patient made a good recovery on antisyphilitic therapy.

Primary tumors of the vertebras may grow very slowly and chordomas in particular, may give an x-ray picture very similar to the one seen in this case. Spinal chordomas, however, usually occur in the sacrum or cervical region.

The possibility of a metastatic neoplasm is unlikely in view of the long course of the disease. The lack of a primary site and the normal levels of phosphatase in spite of extensive bony involvement are also against this diagnosis. The x-ray changes and myelographic findings, however, make tumor an important consideration in the differential diagnosis of spinal cord compression for at operation one can be surprised by finding primary or secondary epidural neoplasm instead of an inflammatory lesion and vice versa.

## Tuberculosis

In summary, the site of disease extended from between the second and third lumbar vertebra up to the lower thoracic region. The pathologic process was a tuberculous one involving the neural arches and bodies of the lower thoracic and upper lumbar vertebras and producing a tumor of epidural granulation tissue.

*Dr. Don:* If this was a chronic inflammatory disease, tuberculosis is the most likely cause and many of the radiologic findings support this; but it is difficult to maintain this diagnosis in the presence of intact intervertebral spaces. The preservation of the disk spaces and the calcification in the soft tissue mass also speak against the rarer chronic infections such as blastomycosis and actinomycosis.

Hodgkin's disease or one of the other lymphomas can cause a combined osteolytic and osteoblastic bone reaction and a soft tissue mass, but calcification in the soft tissue mass would be most unusual.

On radiologic grounds a neoplasm seems most likely. The appearance is not that of a hemangioma and

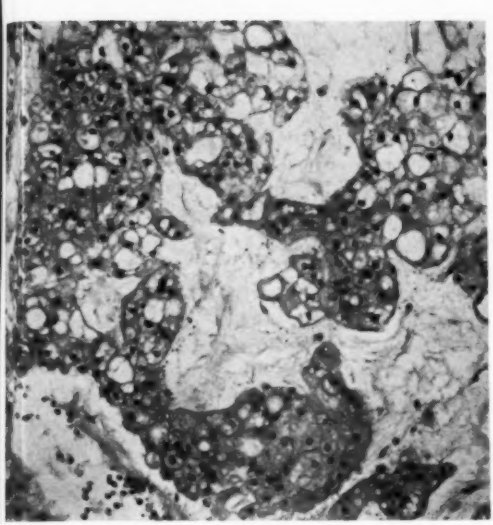


Figure 3. Typical microscopic study of chordoma shows clusters and islands of vacuolated cells of variable size.

the involvement of successive vertebras is against a giant-cell tumor. This may have been a malignant spinal cord tumor, but there is no evidence of expansion of the spinal canal.

The tumor that would fit this radiologic picture well is a chordoma. This tumor tends to involve successive vertebras; it induces osteosclerosis as well as osteolysis; it involves the neural arches as well as the bodies; it produces a soft tissue mass; and it may show small areas of calcification.

CLINICAL DIAGNOSIS

Tuberculosis involving neural arches and bodies of twelfth thoracic and first and second lumbar vertebras.

DR. VERNON H. MARK'S DIAGNOSIS

Tuberculosis of lower thoracic and upper lumbar vertebras.

ANATOMICAL DIAGNOSIS

Chordoma involving bodies and neural arches of twelfth thoracic and first and second lumbar vertebras.

## Pathological discussion

*Dr. Edward P. Richardson, Jr.:* The patient was seen by a number of consultants who reached the same diagnostic conclusions that Dr. Mark did.

At operation, the spinous processes of the twelfth thoracic and first lumbar vertebras were friable and freely movable. These were removed, exposing a large amount of yellowish tissue of necrotic ap-

pearance which involved the transverse processes of these vertebras and extended into the epidural space where it was adherent in several places to the dura mater. The abnormal tissue was dissected free from the dural sac, and as much of it as was accessible was removed. Microscopical examination *(Fig. 3)* showed clusters and islands of vacuolated cells of variable size embedded in an amorphous eosinophilic substance present in copious amounts. No mitoses were seen. The appearance was entirely typical of chordoma.

The patient made an uneventful postoperative recovery. He was given a course of radiation therapy to the lumbar spine, active physical therapy, and has shown gratifying improvement. When last seen five months after the completion of radiation therapy, he was free of pain, walked well with a cane, and had excellent control of the bowel and bladder.

The chordoma is a relatively rare tumor which is generally conceded to arise from cell rests left over from the notochord in the embryo. Such cell rests are most frequently encountered in the clivus of the occipital bone and in the sacrococcygeal vertebras—the same areas in which chordomas most frequently occur.

In his review of the literature, Horowitz[6] found that of 245 cases of chordoma, 81 were cranial, 135 sacrococcygeal, and the remaining 29 elsewhere in the vertebral column (cervical in 11, thoracic in 6, lumbar in 12). Henschen[7] gives closely parallel figures and emphasizes the great rarity of these tumors in the thoracic vertebras. In general, they behave as malignant growths, being locally invasive and destructive; metastases however, are extremely rare.

## References


1. Scarff, J. E. Fifty years of neurosurgery. *Surg., Gynec. & Obst.* **101**:417-501, 1955.
2. Elsberg, C. E. *Surgical Diseases of the Spinal Cord.* Paul B. Hoeber, Inc., New York, 1941.
3. Heusner, P. A. Non-tuberculosis spinal epidural infections. *New Eng. J. Med.* **239**:845-854, 1948.
4. Mixter, W. J. and Smithwick, R. H. Epidural abscesses of pyogenic origin prior to 1932. *New Eng. J. Med.* **207**:126-131, 1932.
5. Ray, B. S. Gumma simulating tumor of cauda equina. *J.A.M.A.* **114**:401-404, 1940.
6. Horowitz, T. Chordal ectopia and its possible relation to chordoma. *Arch. Path.* **31**:354-362, 1941.
7. Henschen, F. Tumoren des Zentralnervensystems und seiner Hullen. In Handbuck der spez. Path. Anat. u. Histol., edited by Lubarsch, O., Henke, F., and Rossle, R. vol. 13, part 3, Springer-Verlag, Berlin Gottinger, Heidelberg, 1955, Pp 881-883, total pp 1098.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CASE 43371. A sixty-one-year-old woman entered the hospital because of malaise and weakness.

Six weeks previously she noted a slight cough and felt "limp." The blood pressure was 140 systolic, 80 diastolic. Three days later there was marked anorexia and weakness. The anorexia became intermittent and in spite of bed rest there was increasing weakness as well as shortness of breath on exertion.

Four weeks before admission the blood pressure was 134 systolic, 60 diastolic. Ten days before entry her physician noted rales at both lung bases. The blood pressure was 120 systolic, 60 diastolic. X-ray films of the chest were said to have demonstrated cardiac enlargement. With penicillin therapy there was some recovery of strength, but she remained anorectic and bedridden. With digitalization breathing improved, and urinary output greatly increased. Two days before admission the blood pressure was 135 systolic, 50 diastolic.

The day before entry an aortic diastolic murmur was audible and the temperature was 100.4°F. There were no chills, hemoptysis, edema or loss in weight. There was no history of rheumatic fever or chorea.

## Examination

Physical examination showed a sallow woman in no distress. There were no petechiae, cyanosis or icterus. Marked cervical venous pulsations were noted just above the clavicles when the patient was in a sitting position. The mouth and throat were normal. Examination of the lungs revealed a few scattered rales.

The left border of cardiac dullness was percussed 9 cm. to the left of the midsternal line. There was a loud apical gallop. The pulmonic second sound was slightly greater than the aortic but was not increased in intensity. A Grade 2, aortic, systolic murmur and a Grade 2, diastolic blow along the left sternal border were audible.

Liver and spleen were not palpable; there was no edema, temperature was 103° F., pulse 124, respirations 32. Blood pressure was 130 systolic, 40 diastolic.

The urine gave a + test for albumin. Examination of the blood revealed a hemoglobin of 10.3 gm. per 100 ml. and a white cell count of 11,650, with 90 percent neutrophils; nonprotein nitrogen was 17 mg. per 100 ml. The blood Hinton test was negative. Cultures of the blood grew out alpha hemolytic streptococci that showed good sensitivity to penicillin and moderate sensitivity to streptomycin. X-ray films of the chest demonstrated an ill-defined density in the posterior aspect of the left lung base, slight blunting of the costophrenic angles, caused by fluid and some prominence of the left ventricular contour.

An electrocardiogram showed a sinus tachycardia of 120; the PR interval was 0.19 second; the T-waves were diphasic in Leads 1, 2, aVL, V4, V5 and V6 and upright in Leads V1, V2 and V3; the R-waves were absent in Leads V1 and V2 and tall in Leads V4, V5 and V6; the S-waves were deep in Leads V1 and V2; the ST segments were sagging in Leads 1, 2 and aVL and considerably depressed in Leads V4, V5 and V6.

## Antibiotics

On the second hospital day the tip

of the spleen, which was nontender, was barely palpable below the left costal margin. With 4,000,000 units of penicillin and 2 gm. of streptomycin given intramuscularly every twenty-four hours, the rectal temperature fell to between 100 and 101°F. for the first two weeks. Thereafter, it remained about 100° F. The pulse ranged between 94 and 130. Bacteriocidal studies of the patient's serum showed prevention of growth in a dilution of 1:128 (control 1:2). On the sixth hospital day the hemoglobin was 9.7 gm. per 100 ml. and the white cell count 11,800, with 84 percent neutrophils.

Because of vertigo and tinnitus, streptomycin therapy was discontinued after twelve days with gradual slight relief of these symptoms.

On the eighth hospital day, after an emotional upset there was an episode of dyspnea. There was no distention of the veins of the neck. Fine rales were audible over both lung bases. The cardiac murmurs were as previously noted. The blood pressure was 140 systolic, 40 diastolic. This episode subsided after demerol therapy. Four days later slight cervical venous pulsations were noted, a few scattered rales were heard at the lung bases and the blood pressure was 130 systolic, 50 diastolic.

On the sixteenth hospital day penicillin therapy was discontinued and procaine penicillin, 600,000 units every six hours, was begun. Ventricular ectopic beats were noted on the twentieth hospital day. X-ray films of the chest demonstrated better definition of the rounded density overlying the posterior half of the left leaf of the diaphragm in the lower portion of the dorsal sulcus.

An electrocardiogram showed a sinus tachycardia at a rate of 110 to 115 with an infrequent ventricular premature beat; the T-waves were slightly sagging in Leads 1 and 2 and deeply inverted in Leads V4, V5 and V6; Q-waves were small in Leads 2, 3 and aVF; the R-waves were absent in Leads V1 and V2; and there was slight sagging of the ST segments in Leads V4 through V6; special precordial leads showed no evidence of right ventricular hypertrophy or "strain." The next day there was a transient episode of dyspnea that was associated with tachycardia, but no cyanosis, pain in the chest, sweating or coughing. Subsequently, the cardiac rate was 120. There was a regular gallop rhythm with occasional extrasystoles. Persistent rales were audible at the left lung base. There was no tenderness of the calves. The hemoglobin was 11.4 gm. per 100 ml. A bilateral superficial femoral vein ligation was performed on the twenty-second hospital day; no thrombi were found.

In spite of thiomerin and an increase in digitalis to the point of causing mild nausea and vomiting, there were persistent basal pulmonary rales, tachycardia and gradually

increasing dyspnea. The veins of the neck were slightly distended. On the twenty-sixth hospital day the patient noted "fluttering" of the heart and was dyspneic. The hemoglobin was 116 gm. per 100 ml. and white cell count 14,400, with 83 percent neutrophils. Blood cultures showed no growth. X-ray films of the chest on the next day demonstrated an increase in the amount of pleural effusion on the left; the right pleural effusion was about the same as previously noted; fluid was seen extending into the lower portions of both major fissures. An electrocardiogram on the twenty-seventh hospital day showed no significant change.

### Marked dyspnea

The next day the patient complained of "spells" characterized by marked dyspnea and a "terrible feeling." These attacks each lasted for a few minutes and occurred when she attempted to sit up straight or lean backwards to a slight degree. After the onset of a "spell," slight variable cyanosis of the feet, hands and forearms was noted. Cyanosis of the circumoral and circumnasal areas was present but did not persist during the most intense attacks. Examination of the lungs showed no changes. The pulse was about 125 and regular during the early part of an attack. About 5 or 6 pulse beats were dropped at the height of an attack with a return to a slightly smaller amplitude for several beats. An electrocardiogram taken throughout a "spell" revealed a sinus tachycardia at a rate of 125. The blood pressure was 112 systolic, 84 diastolic. The cardiac murmur remained unchanged. There was no distention of the veins of the neck nor associated palpitations, cough, wheezing, pain in the chest, dizziness or syncope. The attacks were relieved when she leaned forward at an angle of about 45°. In this position she was entirely free of dyspnea.

The next day there were several similar brief attacks even while she maintained a forward position. Examination of the chest showed no changes. During one of the attacks she died suddenly.

### Differential diagnosis

*Dr. David Littman*:* This is a straightforward account of a rapidly progressing fatal illness in a sixty-one-year-old woman. Beginning with malaise and weakness, the symptoms increased during a six-week period; she died almost certainly of endocarditis lenta after four weeks of treatment that is ordinarily adequate.

I imagine that this exercise is primarily intended for the discussion of therapeutic failures in this disease. In spite of the advent of effective antibiotics only some 70 percent of patients with subacute bac-

*Cardiologist, Veterans Administration Hospital, West Roxbury, Massachusetts.

terial endocarditis are cured today. As a matter of fact the present rate of cure is little better than that from 1944 through 1947 when penicillin was used in dosages of 200,000 units a day. At that time an article[1] from this hospital reported a rate of recovery of about 70 percent.

Before I discuss the therapeutic failure in this case, I shall attempt to determine the etiologic background of the bacterial endocarditis. Almost by definition, subacute bacterial endocarditis occurs on a previously damaged valve. In the great majority of cases—80 to 90 percent perhaps—it is a valve in which rheumatic changes have occurred. In a few cases it is a congenitally deformed valve and rarely, nowadays, a valve damaged by syphilis. In this patient the physical findings were those of aortic valve disease and so far as I can tell this was the only valve involved. No murmurs implicating the mitral valve were described nor were there any symptoms suggestive of mitral involvement. Rheumatic disease confined to the aortic valve is uncommon in both sexes and practically unheard of in women. I personally have never encountered rheumatic disease of the aortic valve alone in a woman. Syphilitic disease may occur in this fashion, but was adequately ruled out in this case.

The so-called congenital bicuspid aortic valve is more common and I am sure more likely in this case. Such a valve, as you know, is especially liable to infection. In one report[2] it was stated that 23 percent of males having bicuspid aortic valves died of subacute bacterial endocarditis. In another report subacute bacterial endocarditis developed in 11.5 percent of 52 patients with bicuspid aortic valves[3]. In my own experience during the past few years I have seen at least six patients with bicuspid aortic valves who died with bacterial endocarditis. Only the patients with the most severe infection die today and those with disease of the aortic valve are in that group. Even though the patients do not die of the disease during the infective stage, many succumb to irreversible heart failure during the subsequent year or two.

I believe that there is no unanimity of opinion among pathologists whether bicuspid aortic valves do in fact exist as true congenital defects or whether they are the result of intrauterine or neonatal valvulitis. I hope we can be enlightened on this.

The causes of therapeutic failure and death in the group of cases that were studied in this hospital[4] were, in the order of frequency, heart failure, which was by far the most frequent, cerebral vascular accident, embolism, renal failure, and occasionally, uncontrolled infection. Once in a while a mycotic aneurysm in a vital area ruptured. In the same group, heart failure was seen in 84 percent of the patients who died and in only 17 percent of those who recovered.

Figure 1. Postero-anterior film demonstrating enlargement of the left ventricle and central pulmonary vascular engorgement.

**Pulmonary embolism**

In the case under discussion one can quickly rule out an uncontrolled infection. It seems clear that the patient was adequately treated and that the organisms were promptly eradicated. She did not die of renal failure; nor of a cerebral vascular accident. There was no evidence to implicate a ruptured mycotic aneurysm anywhere. Therefore, I am left with congestive failure, which she certainly had, and pulmonary embolism and infarct which she probably had.

May I see the x-ray films?

*Dr. Paul M. G. St. Aubin:* The initial films described in the protocol were taken in another hospital and are not available. The anteroposterior and lateral films of the chest taken on admission show a heart that is prominent in the region of the left ventricle, a left main bronchus that does not appear to be abnormal in position and a slight increase in density at both costophrenic angles; there is no evidence of an enlarged left atrium.

Two weeks *(Fig. 1)* later the heart has not changed in size appreciably; the diaphragm appears higher and the hilar vessels are more prominent; these are prominent up to a point and then suddenly diminish in size in the peripheral portions of the lung fields. In the lateral view *(Fig. 2)* there is the

fairly well defined, rounded density described in the protocol.

On the third examination done approximately a week later there is a slight further increase in the size of the heart, greater elevation of both leaves of the diaphragm, more obliteration to the right costophrenic sinus and some slight increase in the prominence of vessels centrally. The lateral projection reveals further widening of both major fissures.

The shadow that probably represents the posterior aspect of the left leaf of the diaphragm and the stomach bubble appear to be somewhat low in both the lateral films suggesting that there is a great deal of fluid above the left leaf of the diaphragm.

*Dr. Littman:* Would you like to give the rounded density a name?

*Dr. St. Aubin:* It certainly has the appearance of a pulmonary infarction.

*Dr. Littman:* It would appear that the physicians taking care of the patient also were strongly suspicious of pulmonary embolism probably with infarction because the leg veins were tied. No thrombi were seen but that does not necessarily rule out

Figure 2. Lateral film of the chest demonstrating a density in the posterior costophrenic sulcus.

the possibility of thromboembolic disease. In fact, a number of details about the patient's last few days strongly suggest a series of pulmonary emboli.

During her last days she had curious "spells" that consisted of dyspnea and a "terrible feeling." I do not know why she was able to control them by change in posture since that implies an obstructive phenomenon related in part perhaps to gravity. Relation of symptoms to posture is one feature characteristic of a ball-valve thrombus. One of these in the left atrium may occlude the outflow tract when the patient is erect and may obstruct it to a lesser degree or not at all when the patient is in a horizontal position or leaning forward. Nothing else in the protocol, however, suggests a ball-valve thrombus in the left atrium. Persons who die in congestive failure today still have a very high incidence of pulmonary embolism and infarction in spite of anticoagulant therapy. I am almost certain that some emboli were present here. I wonder if this patient had a lung full of thrombi and if thrombi were still migrating through the heart at the time she died. The sudden death suggests an accident of that type.

Another possibility is a ruptured cusp—a large fenestration through one cusp of the bicuspid valve. I should not expect a series of premonitory spells to have preceded an extensive rupture through an aortic cusp. Another more remote possibility is a rupture of an aneurysm through the sinus of Valsalva. This is unlikely in view of the remainder of the findings.

I shall rest my case on the conclusion that the patient had a bicuspid aortic valve, possibly with a fenestration, that when she died there had been a bacteriologic cure of the endocarditis—although viable bacteria may be found five or six weeks after an apparent cure—that she had pulmonary emboli probably with infarction and that a thrombus may still have remained in the right atrium.

*Dr. Richard B. Cohen:* I should like to ask Dr. Littman to be more specific about his reasons for ruling out a ruptured mycotic aneurysm of the sinus of Valsalva. You said that the remainder of the findings ruled that out.

*Dr. Littman:* There is a statement in the protocol that there was no change in the murmur: "The cardiac murmurs remained unchanged; there was no distention of the veins of the neck nor associated palpitations. . . ." I should expect that when the pressure in the left ventricle was transmitted to the right side there would have been a continuous murmur and perhaps distention of the neck veins.

*Dr. Cohen:* Do you believe that there is a characteristic murmur associated with rupture of the sinus?

*Dr. Littman:* I have no personal experience with it; there may be.

*Dr. Conger Williams:* I sent this pa-

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tient into the hospital. On the day of admission it was obvious that she had a severe illness, probably an infection, with fever, borderline congestive failure and free aortic regurgitation. We received well documented blood pressure readings from her family physician. The free aortic regurgitation developed in the two or three weeks before admission.

I do not agree with Dr. Littman's statement that isolated aortic disease from rheumatic fever is never seen in females. It is quite rare, but it does occur occasionally without mitral disease. We also considered a bicuspid aortic valve because of the complete absence of any history of rheumatic fever and of heart murmurs having been heard before the recent illness. We thought that she needed all possible help in view of the fact that aortic regurgitation had developed so rapidly. Accordingly she was given streptomycin in addition to penicillin. Streptomycin was stopped when vertigo developed, although it was considered that a small cerebral embolus might have produced that symptom. Just before the last episodes I went on vacation and Dr. Bryan Williams had charge of the patient during the last days of her life. He called me after she died and told me he though that she had had a large intermittent obstruction such as a ball-valve thrombus and asked the thoracic surgeons if they would consider an exploration. It was agreed that the disease was too far advanced for any such procedure. I, too, was impressed by the relationship between posture and improvement in the peculiar spells and the possibility of intermittent obstruction somewhere within the heart cavity.

CLINICAL DIAGNOSIS

1. Subacute bacterial endo-carditis, aortic valve.
2. Bicuspid aortic valve.
3. ?Ball-valve thrombus.

DR. DAVID LITTMAN'S DIAGNOSIS

1. Subacute bacterial endo-carditis, aortic valve.
2. Bicuspid aortic valve.
3. Pulmonary emboli, probably with infarction.
4. ?Thrombus in right atrium.

ANATOMICAL DIAGNOSIS

1. *Subacute bacterial endo-carditis of aortic valve.*
2. *Bicuspid aortic valve.*
3. *Erosive aneurysm of aortic valve, with rupture.*
4. Pulmonary congestion and edema.
5. Hydrothorax, bilateral.

## Pathological discussion

*Dr. Cohen:* As Dr. Littman suggested, the patient had a subacute bacterial endocarditis engrafted on a bicuspid aortic valve. The leaflet of the valve corresponding to the right posterior cusp measured 3 cm.; the other leaflet was 4 cm. in length and was divided by a raphé that extended from the aortic wall of

the sinus of Valsalva to the valve. This resulted in the formation of two rudimentary segments, corresponding to the left posterior and the anterior cusp.

The valve was the site of extensive bacterial endocarditis with vegetations extending across the two cusps. The largest of these vegetations measured over a centimeter in greatest diameter and contained acute and chronic inflammatory cells and numerous gram positive cocci.

Within the right posterior cusp there was a large rupture which probably had occurred in an erosive aneurysm of the valve. These erosive aneurysms can arise in several ways. The so-called false aneurysms or thrombo-aneurysms are thought to arise by an initial rupture of the cusp at a site of necrosis, with secondary thrombosis. The aneurysmal walls in these cases are formed by the vegetations themselves. This type of erosive aneurysm is more common in the aortic valve but may occur on the mitral as well. The other type, often referred to as a true aneurysm, is also formed by erosion of the valve secondary to endocarditis, but its wall is made up entirely of thin-walled valve substance and the vegetations may be in or around the aneurysm. Once the aneurysm has ruptured, which it often does, it is difficult or impossible to distinguish the so-called true variety from the false. In this case an accurate distinction could not be made. Valvular aneurysms appear to have increased in incidence since the advent of antibiotic therapy for subacute bacterial endocarditis.

I do not believe we can say specifically what caused the peculiar episodes of fainting that this patient had. It is possible that the vegetations were so large and the aneurysmal dilatation of the right posterior cusp was so marked that during some phase in the movement of the valve they may have occluded the aortic orifice.

In answer to Dr. Littman's question about the differentiation of congenital and acquired bicuspid aortic valves, there is no complete agreement on this. I think most pathologists agree that one cannot make the diagnosis by gross characteristics alone. Koletsky[5, 6] carefully sectioned and studied these valves, and came to the following conclusions: when the valve is bicuspid and the cusps are equal in size and distinct without any raphé, the deformity is probably congenital; when there is a raphé, it may be congenital or acquired. Histologically when the raphé is composed largely of aortic medial tissue superficial to the fibrous tissue of the annulus, the valve is probably congenitally bicuspid; when the raphé is composed largely of fibrous tissue without a component of aortic media, the deformity is probably acquired. I do not know how accurate this differential point would be in a case where a congenital bicuspid valve became inflamed and the smooth-muscle and

elastic-tissue components in the raphé were obliterated by superimposed fibrosis.

In addition in this case there was bilateral hydrothorax, some pulmonary congestion, edema and atelectasis. There were no pulmonary emboli and surprisingly enough, no distal emboli. We were unable to find a localized lesion that corresponded to the rounded lesion of the lung noted on x-ray film. I should have expected some systemic embolism and infarction but apparently none existed. This patient died in congestive failure from the severe damage to the aortic valve.

### References


1. Paul, O., Bland, E. F., and White, P. D. *New Eng. J. Med.* **237**:349, 1947
2. Lewis, T. and Grant, R. T. *Heart*, **10**:21, 1923.
3. Wanchope, G. M. *Quart. J. Med.* **21**:383, 1928.
4. Littman, D. & Schaaf, R. S. *New Eng. J. Med.* **243**:248, 1950.
5. Koletsky, S. Congenital bicuspid aortic valves. *Arch. Int. Med.* **67**:129-156, 1943.
6. Koletsky, S. Acquired bicuspid aortic valves. *Arch. Int. Med.* **67**:157-176, 1943.


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## Fellowships Offered

**The Medical Section of the National Tuberculosis Association, the American Trudeau Society, provides a limited number of fellowships to promote the training of clinicians, medical teachers and scientific investigators in the field of tuberculosis and respiratory diseases. Awards are open to citizens of the United States for graduate work within this country, in the field of respiratory diseases, at an approved hospital or medical center. Residency in an approved hospital under such a fellowship will be credited by the American Board of Internal Medicine toward certification.**

**Each applicant must have the approval of the head of the department under whom he expects to work. Awards, determined by individual circumstances, are paid directly to the fellow on a quarterly basis. Fellowships are granted for one year. Applications must be received by January 1. Appointments may begin on any date at the convenience of the applicant.**

**Further particulars concerning fellowships may be obtained upon request from: The Director of Medical Education, American Trudeau Society, c/o The Henry Phipps Institute, Seventh and Lombard Streets, Philadelphia 47, Pennsylvania.**

# A Year Abroad

**Grants for foreign study and research are available to residents from a number of sources. Touching on some of the benefits to be gained from a period of study abroad, the author lists some of the organizations which sponsor fellowships for American physicians interested in foreign training.**

**Esther Swartz**

Prior to World War I it was not uncommon for American doctors to culminate their training programs by spending a period of time abroad, studying the techniques of their foreign colleagues. Even in the years from 1918 to World War II, many American physicians visited the medical teaching centers of Europe for graduate instruction.

The effects of the war on European medical education were, however, profound. Hospitals and laboratories were in ruins, and many of the outstanding medical personnel came to the United States. At the same time a tremendous expansion of research and training centers took place in this country. No longer, then, was it necessarily desirable for American M.D.'s to round off their medical education with further study abroad.

However, with the gradual restoration of medical facilities overseas, the trend toward acquiring some foreign training is reappearing. American medical residents, eager to avail themselves of the opportunity to be exposed to different views of medical research and study and, at the same time, to learn at firsthand something of life in another country, are each year in greater numbers seeking ways to make this opportunity materialize.

For the resident, of course, money is the major problem.

Without financial assistance it is practically impossible for the average resident to contemplate a foreign study or training experience. It is the purpose of this article to acquaint residents with the various sources of available monetary aid.

The Public Health Service, under

the jurisdiction of the U.S. Department of Health, Education and Welfare, offers a large number of grants to institutions and to individuals. Programs include grants for research and for training in a wide range of fields.

Although primarily intended for work in American institutions, these awards may be utilized abroad if evidence is shown that the applicant's program is particularly suited to research or training outside the United States.

American citizenship and the completion of an approved internship are basic eligibility requirements. There is no established limitation on the number of grants that may be made, nor is there a definite application deadline. Awards are usually made from three to four months after application and are available up to ten months after notification of the winning of a grant.

The stipend is approximately $3400 for the first year and $3700 for the second year if it is renewed; a dependents' allowance can usually be arranged for married grantees.

Research grant application forms may be obtained by writing to: *Division of Research Grants, National Institutes of Health, Bethesda, Md.*

Training scholarships are available from the appropriate National Institute—Cancer, Heart, Neurological Diseases and Blindness, Arthritis and Metabolic Diseases, and Mental Health — at the same address.

**Research Council**

Another large fellowship program is conducted by the National Academy of Sciences—National Research Council. Fellowships are intended for young (under 35) men and women of unusual promise who are in the early stages of an investigative career.

The British-American Exchange Postdoctoral Fellowships in Cancer Research, for American citizens to undertake advanced study in Great Britain, and the American Cancer Society Postdoctoral Fellowships in Cancer Research, tenable in the United States or abroad, are designed for research experience rather than for clinical training in cancer diagnosis or treatment. The latter program is quite large: about 45 fellowships are awarded each year. The British-American Exchange provides three fellowships annually, each paying £1500 ($4200).

Other National Academy of Sciences—National Research Council awards of possible interest to residents are the Lilly Research Laboratories Postdoctoral Fellowships and the National Research Council Postdoctoral Fellowships, both designed to offer an opportunity for research in the preclinical sciences, such as anatomy and pathology, rather than to provide practical experience in the clinical field.

However, applicants with the objective of entering clinical investigation may apply, so long as they de-

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vote themselves to the basic medical sciences during the period of the appointment.

One National Academy grant which is open to any postdoctoral candidate, regardless of citizenship, is the James Picker Foundation Postdoctoral Fellowship in Radiological Research. There are no restrictions imposed with respect to appointments for study abroad, provided that the institution abroad agrees to supply the equipment and facilities necessary for the research project.

### National Academy

Further information concerning all awards administered by the National Academy, as well as application papers, is available upon request from: *Fellowship Office, National Academy of Sciences — National Research Council, 2101 Constitution Avenue, N.W., Washington 25, D.C.* Applications should be submitted by December 1.

Among the awards listed on the application blank the candidate may indicate his preferences. The fellowships are awarded for one year, with possible renewals and, as mentioned above, may be taken in a foreign institution if, in the judgment of the board, the research project and other relevant information presented by the applicant provides sufficient evidence that study in the foreign institution proposed would be in the best interests of his future career.

An annual stipend of $3800 is allowed, with additional funds for dependents. The costs of transportation abroad may be covered as well, depending upon the individual decision of the recommending boards in each case.

### Polio Foundation

Residents preparing for careers in research or academic medicine who wish to study at approved institutions in any field related to poliomyelitis are eligible, if U.S. citizens, to apply for the Postdoctoral Fellowships in Medicine offered by the National Foundation for Infantile Paralysis. (RP-*October 1956*). Stipends are generous, ranging from $3600 to $6000 and allowing a maximum amount of $600 for travel if foreign study is approved. To apply, write: *Division of Professional Education, National Founda-*

About The Author

Born in London, Ontario, Canada, the author received her B. A. degree from the University of Western Ontario. Mrs. Swartz' husband is in his final year of an ophthalmology residency at Manhattan Eye, Ear & Throat Hospital in New York City. The author is Assistant Chief of the Information and Counseling Division, Institute of International Education.

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*tion for Infantile Paralysis, 120 Broadway, New York 5, N.Y.* Application deadlines are March 1, September 1, and December 1.

### Cancer

In addition to the awards for cancer research offered by the National Academy of Sciences, other opportunities for possible overseas work in this field are made available through the Swedish-American Exchange Postdoctoral Fellowships in Cancer Research and the Damon Runyon Cancer Research Fellowships.

The former grants are for American citizens to undertake advanced studies and gain research experience in Sweden in fields of investigation pertaining to growth. Stipend and travel expenses are paid by the *American Cancer Society;* applications should be addressed to 521 W. 57 Street, New York 19, N.Y.

Damon Runyon Cancer Research Fellows are permitted to train outside the U.S. if the institution or sponsor chosen is of high medical standing. Damon Runyon Fellowships, applicable to study or training in any area of basic or applied cancer research, provide an annual allowance of $3600 with an extra $600 for each dependent. Certain travel allowances may be granted as well. For applications write: *Executive Director, Damon Runyon Memorial Fund for Cancer Research, Inc., 399½ Madison Avenue, Building E., Room 1202, New York 17, N.Y.,* by October 1, January 1, or June 1.

### Insurance Fund

The Life Insurance Medical Research Fund Postdoctoral Research Fellowships, ranging from $3300 to $4500 per year, are awarded to doctors for training and research experience in any field, although preference is given to those whose primary interest is in cardiovascular function and disease.

Fellowships involving travel outside the United States and Canada are given only to those who have had previous research experience.

Before submitting applications to the *Scientific Director, Life Insurance Medical Research Fund, 345 East 46 Street, New York 17, N.Y.,* candidates should make their own arrangements for the year that they wish to spend under the fellowship. A letter of acceptance from the proposed supervisor, describing facilities available, must accompany each application.

### New York

The *New York Academy of Medicine, 2 East 103 Street, New York 29, N.Y.,* administers the Bowen-Brooks Fellowship. This award is offered every two years to a physician who took his internship or residency in a municipal or voluntary hospital in New York City, and who is otherwise financially unable to spend the year of postgraduate study or training.

The grant, in the amount of

$700, requires a specific project, clinical or research, in an unspecified field. Residents wishing to apply should write to *Dr. Robert L. Craig, Committee of the Bowen-Brooks Scholarship,* at the above address; the closing date for applications is September 1.

### Commonwealth Fund

Outstanding young physicians who show great promise for academic or research careers are invited to apply for the Commonwealth Fund Fellowships, by writing to the *Fellowship Committee, The Commonwealth Fund, 1 East 75 Street, New York 21, N. Y.*

U.S. citizenship and an M.D. or PhD. are stipulated, with preference given to those who have had some teaching or research experience; a candidate must be sponsored by the department head of a recognized teaching institution in the United States of which the applicant is a present or future member.

The awards are given to enable their recipients to work in medicine or a closely related discipline in this country or abroad, depending upon where the facilities meet the candidate's special needs. The stipends, application date and the date when the award is made available vary according to the individual situation. The usual tenure is one year.

### Ventnor Foundation

American residents who would like to spend a year in Germany will be interested in the Ventnor Foundation Awards. The Foundation, at 5407 Atlantic Avenue, Ventnor City, New Jersey, makes arrangements for recent graduates of American medical schools to take a year's residency training in Germany each year. The grants, varying in amount according to individual need, are given for work in any field of specialization.

## Direct Correspondence

**This article does not attempt to present a comprehensive listing of grants available for medical training and research abroad. Many American hospitals, for example, periodically award fellowships to members of their house staffs for further work in other centers. Conversely, hospitals and laboratories abroad who wish to attract well-qualified young physicians for a year's study in certain fields occasionally offer maintenance stipends; residents may wish to explore this possibility through direct correspondence with foreign institutions.**

**A particularly good source of information about foreign study and research grants is UNESCO's yearly publication, *Study Abroad,* which may be found in university and reference libraries. Residents wishing to obtain financial assistance for overseas study would be well advised to consult this reference work.**

## International Education

A number of grants for overseas study are administered by the *Institute of International Education, 1 East 67 Street, New York 21, N.Y.* Most of the grants arranged by this agency are not earmarked for specific fields; medical graduates are eligible to apply for the awards, so long as they choose to follow a program suited to their country of application.

The largest and best known Institute-administered program is the United States Government Grants Program whose awards are generally referred to as the Fulbright Scholarships. Eligibility requirements for these scholarships, the broad aims of which are to promote understanding and goodwill between the United States and other countries, are U.S. citizenship, a knowledge of the language of the country of choice and for medical applicants, completion of internship.

Candidates should be 35 or under (years of military service are deductible) and should have received their M.D. degrees within the past five years. Placements can be arranged in any branch of medicine (if its study is feasible abroad) in approved hospitals, universities and laboratories.

Some examples of placements made during the past academic year illustrate the flexibility of these grants: ophthalmology, Austria; pediatrics, England; neurology, England; cardiology, Netherlands; internal medicine, France; hematology, Norway. Before making application, of course, candidates should satisfy themselves that appropriate study or research opportunities exist in the country for which they apply.

The Fulbright awards, which are made entirely in the currencies of the participating countries abroad, cover the costs of round trip passage for the grantee, a language and orientation course in his country of study, tuition, books, and complete maintenance for one year.

The counterpart of the Fulbright program in Latin American countries—although "Fulbrights" are tenable in Chile—is called the Buenos Aires Convention Program. Awards include transportation, tuition, maintenance, and sometimes incidental expenses. However, the allowance in certain countries does require supplementation by the grantee.

Competition for both the Fulbright and B.A.C. programs takes place between May 1 and November 1, *one year prior to the academic year during which the grantees will study abroad.*

## Foreign study

The Institute of International Education also administers a number of Foreign Study Grants given by foreign universities, private foundations and educational organizations. Since most of these awards do not cover the entire expenses of the period of foreign study, they should be

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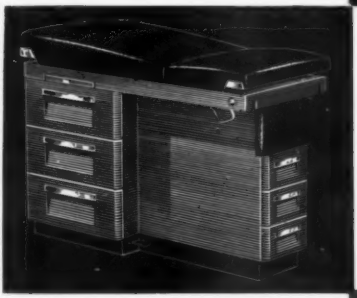

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considered as "grants-in-aid." Grantees would in most cases find it necessary to pay their own incidental and travel costs. However, applicants may apply for Fulbright Travel Grants in conjunction with some of these awards—although the winning of a study grant in no way guarantees the receipt of a travel grant.

Like the Fulbright Fellowships, these awards are given for study in many fields and American doctors are eligible to apply. Those applying for study or training in Sweden must receive acceptance from a clinic or professor there *prior* to submitting their applications to the Institute of International Education. This procedure is advisable although not essential for medical applicants for study in countries other than Sweden.

Two of the grants are of particular interest to M.D.'s: the American-Swiss Foundation for Scientific Exchange Grants and the Mexican Government Awards. The American-Swiss Foundation awards one or more scholarships of varying amounts (maximum $1800) for research in the medical or natural sciences to candidates holding the M.D. or PhD.

Of the 16 grants in various fields offered by the Mexican Government to Americans, one may be utilized for work in cardiology at the renowned Instituto Nacional de Cardiologia.

Applications for Foreign Study Grants should be submitted to the Institute of International Education in the winter preceding the academic year during which they are available.

**Rewards**

It is hoped that the information on these pages will stimulate an interest in going abroad for a year. Right now it may appear to the reader that any further delay in establishing his long-awaited practice would be unthinkable. But the rewards of a year abroad, culturally as well as medically, are many and long-lasting. Living and working in a different country can be a worthwhile experience and one that will undoubtedly become a highly treasured memory in the years to come.

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# Getting Autopsy Permission

**You have the most important stake in a high autopsy percentage at your hospital. And with a few facts, a little effort and plenty of enthusiasm, you can do much to boost your hospital's batting average in obtaining consents.**

Most physicians today are agreed that failure to get postmortems is an important obstacle to the advancement of pathology—and thus to medicine and surgery.

This is not a new fact. The contribution of the autopsy to medical education has been recognized down through the centuries. But today, many who have made a closer evaluation now consider the autopsy the most essential element of medical progress.

The American Medical Association requires that any hospital approved for internship or residency training must maintain a specified minimum autopsy percentage.

Yet, in spite of this widespread acceptance of their value, the percentage of autopsies to hospital deaths varies considerably from one hospital to another.

Some centers regularly report averages of from 75% to 90%. Others rarely exceed 15%. Why this difference?

Do such things as geographic distribution and local religious and racial customs account for the spread? Even a brief comparison of the statistics reveals that this is not the case.

Two hospitals in the same city and having the same religious and racial division of patients often present wide differences in their autopsy percentages.

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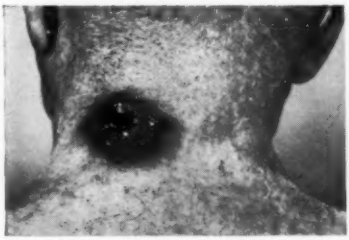

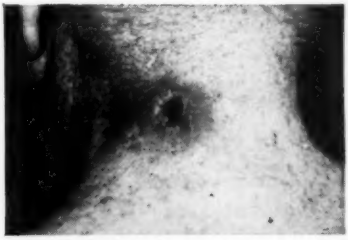

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*References:* (1) Miller, E. W.: New York J. Med. 56:3446, 1956. (2) Gomes, A. L., and Barnard, R. D.: Angiology 8:13, 1957. (3) Morrison, J. E., and Casoli, J. L.: Am. J. Surg. 93:406, 1957. (4) Wood, O. H.: Maryland M. J., in press.

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### Resident's attitude

Experience has caused many hospital administrators to point to the resident physician's attitude as an important factor. They say the resident's desire or lack of desire in personally securing autopsy permission from surviving relatives plays a significant part in the percentage of autopsies reported by the hospital.

One administrator puts it this way: "If the resident makes a real attempt to get autopsy consent and is prepared to answer the questions of surviving relatives concerning autopsy, he can maintain a high batting average. The disinterested resident asks permission as a routine formality, takes the first refusal as the final answer."

A good part of the enthusiasm of the resident depends, of course, upon the enthusiasm of hospital authorities and others on the hospital staff.

### Autopsy plan

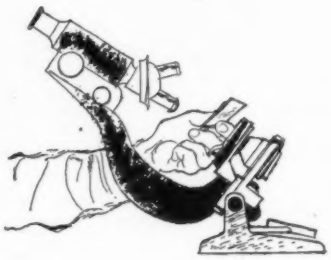
Many institutions have developed a definite program for securing autopsy consent. A typical plan would work like this:

1. The first physician to meet with the relatives asks for autopsy permission. Quite often this is a resident who presents the autopsy question as if it was simply a formality with a "Yes" answer expected almost automatically.

2. If, after a period of discussion, the resident feels the relatives are set against an autopsy, he sends for the chief resident. The chief resident, through his position of responsibility and prestige, may be able to secure permission.

3. If the chief resident fails, it is obligatory to call in either the private physician or in some cases, the hospital pathologist. These older physicians may represent both close knowledge of the patient and experience in the procedure. If required, the chaplain of the same religious faith as the deceased is consulted.

It is important to note that this program is carried out whether the death occurs in the night or day. Often the relative, told to return to the hospital in the morning so that someone may ask his permission for an autopsy, will not return. The time to get autopsy consent is immediately after death. No matter how much help is available, the bulk of the responsibility and the best chance for approval rests with the



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initial interviewer—usually the resident physician.

### Relatives refuse

But in only a small percentage of cases will there be no objection of any kind. Common ways of expressing an objection are:

"No! I couldn't."

"He suffered enough. Leave him alone."

"It's against my religion."

"I don't want him used for experiments."

"I want him to be buried immediately."

"I don't want him cut to pieces or mutilated."

When a patient dies, close relatives quite naturally go through an emotional crisis. In their shock and sorrow, they do not think or act normally. They also need and expect sympathy. Those who are not outwardly religious frequently become so. Thus, if the physician's approach is tactless or careless he will greatly affect his chances of getting autopsy permission.

Such expressions as: "Now I hate to ask you this . . ." or, "I know you won't want to, but please consider it . . ." usually repel the relative. A sympathetic, yet sincere and straightforward approach is best: "I know how deeply you must feel your loss. Everything that could be done was done to help your husband. We would like to perform a final examination to determine the exact cause of death and effects of our treatment . . . with your permission."

### Answer objections

Avoid words like autopsy and postmortem which have unpleasant connotations in lay eyes.

If the relative refuses without giving a reason, ask for one. If it is because immediate burial is wanted, assurance can be given that the entire examination won't take more than one hour; the burial will not be delayed.

Some will say that it is against their religion. They probably won't give the specific teaching of their religion, because usually they do not know. Perhaps they have been told somewhere that an autopsy is against all religions. The fact is, no religion stands opposed to such an examination. Just the opposite. Nearly all religions consider autopsy almost obligatory if some information might be derived from the procedure which could be of assistance to any persons living. And it is difficult to conceive of an autopsy

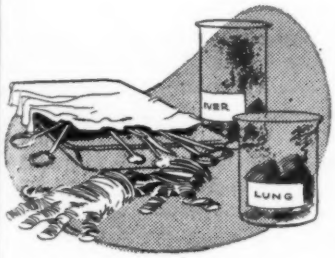
which would not teach at least one observer at least one item of value in treating another individual in the future.

It can be emphasized to the relative that a proper autopsy is not a desecration of the deceased. If necessary to go into details, such expressions as "a surgical incision is made, skillfully repaired and no scar is visible when the deceased is dressed and prepared for burial."

Sometimes it is even necessary to assure the relative that deceased cannot suffer because of a necropsy: "Your husband is in God's hands. What remains cannot suffer but *can* enrich our knowledge and thus serve as a blessing to humanity. Your husband would undoubtedly wish it that way I'm sure."

The offer to call in a Minister, Priest, or Rabbi is usually sufficient to convince the relative that there is no religious opposition to autopsy.

Many relatives ask for time to think about it. Experience has shown that the longer the time interval after death, the less the possibility of receiving their permission.




Frequently, the relatives will want assurance from someone else. Even though, legally, it is only one person's decision to make, he may want to call on friends and relatives for their opinion. Try to avoid this. For even if five relatives are called and four agree that permission should be given, the one refusal will be enough to convince the responsible party to deny permission.

Telling a relative that an autopsy will quickly determine the exact cause of death and so prevent red tape on insurance benefits may be helpful on occasion.

## Point of law

There are important legal questions to consider in connection with autopsy permission. However, controlling state laws differ widely and each resident would be wise to read those laws which govern his hospital.

Autopsy permission should, of course, be obtained from the person legally entitled to give it—although medical examiners have the authority to order an autopsy without permission of the responsible relative.

In some cases it is obvious who is responsible. In most states a surviving spouse who is legally married at the time of death is the one who may give permission. If there is no surviving spouse, the authority usually goes to the children—unless minors.

In some cases the situation is more obscure. If the individual died a bachelor or a widow with no living parent and the only surviving relatives are cousins, brothers, or sisters, whom should you approach for autopsy permission? While there is no pat answer, since the situation has many variables, the resident can consult with his chief of service or the attending physician to determine the proper individual from whom autopsy permission should be obtained.

Before any autopsy is performed, the autopsy request form is usually reviewed by the hospital administrator or the chief of service. Often the medical superintendent must give the final okay.

### Incentive plan

Some hospitals offer inducements to residents—to raise autopsy percentages. One resident's description: "In one hospital where I took resident training, the autopsy percentage reached such a low level that the hospital authorities were notified by the American Medical Association that if the autopsy percentage were not increased substantially the hospital would have difficulty remaining on the approved list."

"The board of trustees," said the resident, "decided to try something to raise the autopsy rate. First they offered us a bonus of a carton of cigarettes for each autopsy permission received. Then they added a prize of $10 each month to the resident with the highest autopsy percentage."

The plan got quick results. "In two months," the resident reported, "the autopsy percentage of our hospital quadrupled."

Though the methods used in this program leave much for debate, it was demonstrated that when the residents were enthusiastic about securing autopsy permission, a high percentage of autopsies was attained.

### Cooperative program

Another successful method used in many high-rated hospitals is a "responsibility and follow-up" program. One hospital, listed by the A.M.A. among the top 10 hospitals in the nation for autopsy percentage, described the method: "We have a very close cooperative function in the procurement of permission for autopsies; which function involves extensive cooperation of interns, residents, hospital administration, nursing office, attendings and the pathology department."

(1) "It is the responsibility of the resident and intern staff to contact the relatives of the deceased immediately on the first visit to the hospital, whether this be in the daytime or the middle of the night.

(2) It is the duty of the nurses to immediately notify the house staff at the time when the relatives first appear. We feel that by approaching the relatives immediately, we have a better opportunity for permission of autopsy.

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(3) Our approach is one of sincerity and honesty. We don't permit misleading statements or any talks associated with insincerity of purpose to be used in the approach for the autopsy permission. We approach the relatives with the attitude of trying to help them in that they are helping us.

(4) If the relatives go home to talk the situation over with the family, we frequently go home with them and talk to the family at home. The pathologist, himself, will frequently do this. It has been our experience that with the proper sincere approach to the family, most intelligent people will cooperate. The attending will frequently help us when there is some doubt in the minds of the family."

In conclusion, this hospital reports: "If there is a failure in the procurement of autopsy permission such a failure must be explained to the pathologist."

Incidentally, this hospital secures eight autopsies in every ten deaths.

Though you may not have control over hospital procedures, you can lift your own rate of autopsy permissions.

Certainly, the effect on your training will alone be well worth the small amount of extra effort required.

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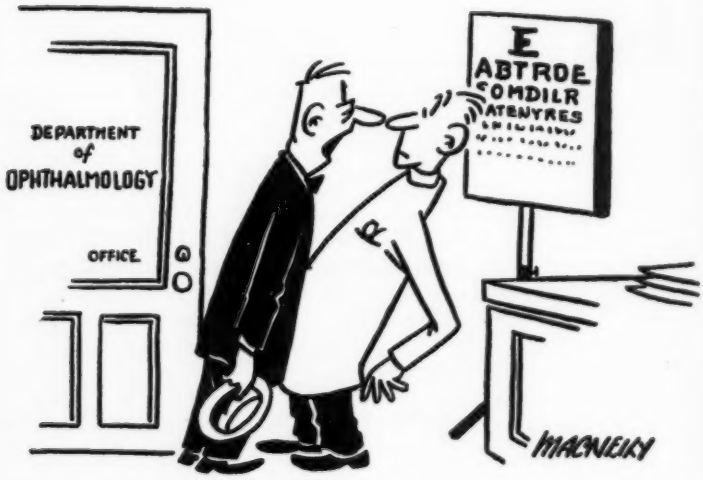


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# Plan Your Filing System

**Much of what we read is forgotten. Much that we save for future reference is misplaced. An efficient and easily maintained filing system is often the stimulus for organized reading, frequent reference and review. Here's how to get started.**

**Morris Soled, M.D.**

o physician can expect to digest completely everything he hears or reads. And since memory will not serve accurately, promptly and without error, another more positive system must be used by the average physician to keep available various items of reference and information.

Many physicians in private practice have such a system—a personal filing system for journals, notes, reprints and even brief summarizations of interesting cases.

Some of these systems are efficient, keeping all pertinent information at their fingertips.

For others, the pile of clipped journals and reprints grows and grows like a space-occupying lesion.

As a resident, my "system" fell in the latter category. It was, in reality, no system at all; it was a junk pile.

After a bit of reflection on the ratio of money and space wasted compared to the accessibility of useful material, I came to the conclusion that my ratio of "pearls" per dollar per cubic foot was ridiculous.

I began to look around for something better than a "simple" chronological arrangement of journals. As a result of my investigation, I came across what must probably be the simplest filing system ever used. It is employed by a distinguished professor of medicine who regularly reads about ten medical journals monthly, remembers everything of

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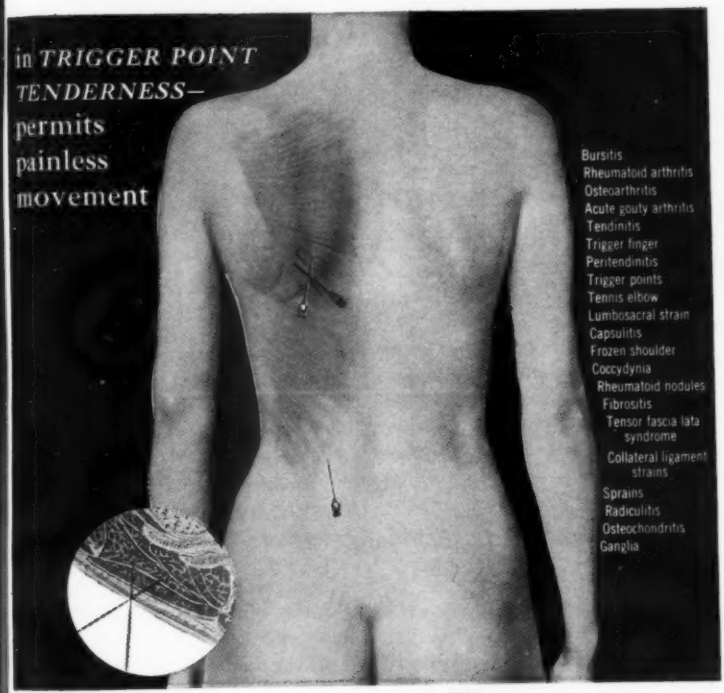


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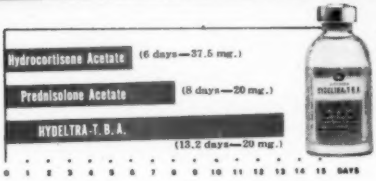
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importance, throws all other literature into the wastebasket unread, and saves absolutely nothing. His system is his memory. And if you have this kind of a memory you needn't read further.

### Space

But let's assume that you're a resident physician of average retention ability. Let's assume further that you want to keep all your journals and use them to fill up the bookcases in your future office. There's nothing wrong with this desire. But even here you can make some saving in space. Simply tear out all the advertising. This will almost save you from 10 percent to 60 percent of your total space. (Most journals, including the J.A.M.A. and the New England Journal of Medicine are joined so that the covers will remain when the front and rear advertising sections are removed.)

### Basic ideas

Now let's assume you don't want to keep every item in every journal you receive. However, perhaps you do feel that a *well-organized, readily accessible* collection of references, reprints, notes and selected clippings is the ideal reference library. After discussing some basic ideas of what would be involved in such a system, I will then present two prepared filing systems from which you may develop one of your own.

To start off, make a rough estimate of how many items you intend to file in the next few years. Are you very particular about what you file, or do you like to tear out everything that looks good? Do you want to file only reprints which you have requested? How about material which is not useful now but is too attractive to forget and is torn out to be studied when a case of it comes along?

In making your estimate remember that you'll save more items if they are easy to file and quick to locate.

Once you go beyond one hundred separate items, the organization is not much different from two hundred or five hundred. The latter, incidentally, is the collection you may be expected to achieve in the next five years if you are happy with your system and settled in a specialty. (Happiness, in this case, is the feeling that you run the system rather than vice versa.)

### Cards

Index cards have the advantage

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# IN PNEUMOCOCCAL PNEUMONIA:

*injection-like effectiveness from oral penicillin*

In a study of 73 patients with mild to moderately severe pneumococcal pneumonia, Austrian and Winston report results with penicillin V [PEN·VEE·*Oral*] "comparable to those following therapy with parenteral penicillin G. . . ."[1] After only two failures (2.7%) in the series, the authors conclude: ". . . it is evident that penicillin V . . . provides a highly effective form of treatment for mild and for moderately severe pneumococcal pneumonia. The speeds of defervescence and of the return of the leukocyte count to normal were comparable to those following therapy with parenteral penicillin G and in no instance was bacteremia, when present initially, found to persist after 24 hours of treatment with penicillin V."[1]

1. Austrian, R., and Winston, A.L.: Am. J. M. Sc. *232*:624 (Dec.) 1956

*Oral*

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## WHEN CONSTIPATION WAS A PROBLEM to the Egyptians—

*Imhotep, the "first physician," discovered castor oil (2850 B.C.), which was later described in the Ebers Papyrus. Purging was not outmoded until the present century.*

# WHEN ATONIC CONSTIPATION IS A PROBLEM

Doxinate with Danthron is provided as a brown, soft gelatin capsule containing 60 mg. dioctyl sodium sulfosuccinate and 50 mg. Danthron (1,8-dihydroxyanthraquinone).

Average dose—one or two capsules at bedtime. Supplied in bottles of 30 and 100 capsules.

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*for soft stools gently stimulated to evacuation*

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**DOXINATE WITH DANTHRON:**

*Corrects the tendency to fecal dehydration—the primary cause of functional constipation.*

*Assists the weak, atonic bowel in fecal elimination.*

*Permits complete elimination with significantly reduced peristaltic stimulation.*

*Useful to initiate therapy in patients with the laxative habit.*

of being smaller and easier to handle than the articles themselves. Multiple references to a particular topic, such as five articles on rheumatic fever, may be kept on one card, as well as "See Also" cross-reference remarks.

However, it is extra work to file the article in one place and prepare a card or entry somewhere else. Cards are ideal for the doctor who wants to collect titles but not articles; I prefer a system which keeps everything in one place, requires no duplication of effort, and is fast.

### Categories

For speed in finding what you want, the selection of categories is the biggest issue. With less than a hundred items, you can file alphabetically by organ systems and be able to locate desired references with little delay.

The table of contents in Cecil's *Textbook of Medicine*—or the textbook of your particular specialty is sufficient. Some topics, such as "Medicolegal" or "Office Management" require separate headings in any systems.

As the size of your file grows, there arises the problem of adding convenient categories to separate "Rheumatic Heart Disease" from "Coronary Artery Disease" for example. It is important, then, to establish within each organ system a category called "Other and Unspecified." This is to allow for diseases which may be added — a miscellaneous home for otherwise homeless items — to be given a title of their own if enough accumulate.

For example, a review of "Tetralogy of Fallot" may not deserve a category of its own but can be filed under "Heart Disease-Miscellaneous," until sufficient articles concerning anomalies are accumulated to warrant a separate heading of "Congenital Heart Disease."

It is good to keep in mind the fact that the filing system which has the greatest number of categories built into it at the outset, in accordance with the user's interests, will be of greatest encouragement in using and developing an article collection. Such a comprehensive listing requires little or no modification later, organizes the user's thinking at the beginning, and requires the least amount of searching while in use.

### Cross indexing

Establishing a cross index can be a headache in any system. Yet, I haven't found any short cuts by which cross-indexing can be eliminated without seriously impairing the value of the system.

Decide whether you wish to use the words Kidney or Renal, Heart or Cardiac, Stomach or Gastric, to avoid later confusion.

### Physical arrangement

I use manila folders about the size of a page of the A.M.A. Journal and keep all articles together by a numerical system. From fifty to one

hundred pages may be kept in one folder and handled with ease; the entire filing system may thus be kept in one drawer of a desk. It is useful to keep a separate folder into which articles may be tossed for filing later . . . but the hazard of procrastination makes a "to be filed" folder of questionable merit.

Keep everything that belongs to one topic in one folder. Reprints and clippings are mixed. A blank piece of paper is inserted where needed on which cross reference remarks are noted (assuming there is no relevant article to scribble on instead).

**Headings**

The alphabetical listing of topic headings (see table) was prepared by Dr. Harold Jaegers, Professor of Medicine at Seton Hall College of Medicine and Dentistry.

We are using a filing system taken from the Manual of International Statistical Classification of Diseases, Injuries, and Causes of Death, Volume I (published in 1948 by the World Health Organization at Geneva, Switzerland).

It is a less cumbersome system than the Standard Nomenclature, since diseases are classified by organ systems into subdivisions having only three numbers, yet it provides a large variety of specific headings.

The absence of alphabetical arrangement is compensated for by the convenience of anatomical progression in several organ systems. A place is provided for miscellaneous items under each major category.

Each article is given its classification number when filed. It is then readily replaced when removed from its numerical group. Cross references are made to articles bearing other numbers; e.g., "see also 550 and 587."

Once articles are assigned a number, they may be stored in any pile anywhere and quickly found. For future use, we have been able to file the C.P.C.'s from the New England Journal of Medicine by anatomical diagnosis, tearing them out to form a separate collection of useful clinical discussions to correlate with current patients on the ward.

While in the library or at lectures, any notes are taken down in a pocket loose leaf book and classified by number, according to a simple arrangement which includes only major titles (and is kept available

## ALPHABETICAL HEADINGS

PREPARED BY H. JEGHERS, M. D.

Accidents
Alcoholism
Allergy
Anesthesia—general
Anesthesia—special
Arthritis

Bone
Breast

Cancer—general
Collagen disorders

Diabetes mellitus

Electrolytes and fluid
Endocrine—general
Endocrine—thyroid
Endocrine—other organs
Eponyms
Examination questions
Eye

Fractures

Genetics and heredity
General practice
GI tract—mouth
GI tract—esophagus
GI tract—stomach
GI tract—intestines
GI tract—colon and rectum
Gynecology—general
Gynecology—organs

Hair
Head trauma
Heart—general
Heart—arrhythmia
Heart—congenital
Heart—coronary
Heart—diagnostic tests
Heart—EKG
Heart—failure
Heart—hypertension
Heart—myocardium
Heart—pericardium
Heart—surgery
Heart—therapy
Heart—valvular
Hematology—general
Hematology—transfusions
Hematology—anemias
Hematology—purpura
Hematology—leukemias
Hematology—therapy
History of medicine

Industrial medicine
Infections—bacteria
Infections—virus
Infections—fungus
Infections—parasitic
Infections—higher organisms
Isotopes

Laboratory diagnosis
Liver, biliary tract
Lymphatic system

Medical economics
Medical emergencies
Medical—legal
Metabolic disorders
Miscellaneous diseases
Muscle

Neurology—general
Neurology—peripheral nerves
Neurology—spinal cord
Neurology—brain
Neurology—spinal fluid
Neurology—tests
Neurosurgery
Nose-ear-throat—general
Nose-ear-throat—organs
Nutrition

Obesity
Obstetrics—general
Obstetrics—normal
Obstetrics—special
Orthopedics

Pancreas
Pediatrics—general
Pediatrics—newborn
Pediatrics—nutrition

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LECTURE: SULFONAMIDES

HISTORY:

Sulfonamide was first prepared in 1908 by Gelmo during his investigation of AZO dyes. Not until 1932 was the chemotherapeutic value of sulfonamide (prontosil) to become known. In 1933 the first clinical case

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INVESTIGATORS FOUND [illegible]

"Gantrisin is highly soluble in an acid urine, and is well tolerated . . . Its high solubility . . . minimizes the chances of crystalliuation . . ."

*Lowsley, O. S., and Kirwin, T. J.: Clinical Urology, ed. 3, Baltimore, Williams & Wilkins Company, 1956, vol. 2, p. 973.*

"Despite the fact that alkali was not given and no attempt was made to force fluids, [Gantrisin] did not cause the formation of concretions and there was no decrease in urine output."

*Carroll, G.; Albu, H. N., and Flynn, H.: J.A.M.A. 142:85 (Jan. 14) 1950.*

"No serious reactions due to [Gantrisin] were observed in approximately 23,000 courses of the drug."

*Yow, E. M.: Am. Pract. & Digest Treat. 4:321 (Aug.) 1953.*

Gantrisin] is well absorbed . . . and possesses the advantage of marked ubility in the normal pH range of urine, thus eliminating the need for ali administration and maintenance of a high fluid intake."

*Buechner, C. W.; Clark, J. L., and Yow, E. M.: J. Pediat. 30:531 (May) 1950.*

ntages of [Gantrisin] are that adjuvant alkali therapy is not mandatory, luids need not be forced, and patients with impaired renal function treated with little danger of further injury to the kidney."

*Goodman, L. S., and Gilman, A.: Pharmacological Basis of Therapeutics, ed. 2, New York, Macmillan Company, 1955, p. 1316.*

[illegible] Division of Hoffmann-La Roche Inc. • Nutley 10, N. J.

Pediatrics—older children
Peripheral vessels
Physical agents (toxic effects)
Physical medicine (rehabilitation)
Plastic surgery
Poisons
Problems related to practice
Psychiatry—general
Psychiatry—neuroses
Psychiatry—major
Public health

Renal—general
Renal—tests
Renal—diseases
Radiology
Respiratory—general
Respiratory—bronchus
Respiratory—lungs
Respiratory—pleura

Skin—general
Skin—special
Shock—peripheral vascular collapse
Social aspects medicine
Spleen
Surgery—general
Surgery—emergency
Surgery—minor
Syphilis
Syndromes (miscellaneous)

Teeth
Therapeutics—general
Therapeutics—specific
Tuberculosis

Urology

Vitamins

## MAJOR HEADINGS

FOR INDEX PAGE OF FILING SYSTEM

**INFECTIOUS**

001 TB resp.
010 TB other
020 Syphilis & Sequelae
030 GC and VD
040 Enteric inf.
050 Other bacteria
070 Spirochetes
080 Viruses
100 Typhus and rickettsia
120 Other infectious and parasitic diseases

**NEOPLASTIC**

*Malignant*
140 Buccal pharynx
150 Digestive, peritoneal
160 Respiratory
170 Breast & G.U.
190 Other & unspecified
200 Lymphatic and blood

*Benign*
210 All sites
230 Unspecified

**ALLERGIC, ENDOCRINE**

250 Thyroid
260 Diabetic
270 Other endocrine
Pituitary 272
Adrenal 274
280 Avitaminoses, metabolic
Gout 288

**BLOOD**

290 Pern. anemia
291 Iron deficiency
298 Spleen

**MENTAL**

300 Psychoses
310 Neuroses
320 Character, intelligence

**CNS AND SENSES**

330 Vascular
340 Inflammatory
350 Other
360 Nerves and ganglia
370 Eye inflam.
380 Eye other
390 Ear & mastoid

**CIRCULATION**

400 Rheumatic fever
410 Chronic RH
420 Coronary A. disease
430 Other heart disease
440 Hypertens. cardiovasc. dis.
450 Arteries
460 Veins and other circ.

**RESPIRATORY**

470 Acute URI
480 Influenza
490 Pneumonias
500 Bronchitis
510 Other respiratory diseases

**GASTROINTESTINAL**

530 Buccal & esophageal
540 Stomach & duodenal
550 Appendix
560 Hernia
570 Other GI diseases
580 Liver, gall bladder, pancreas

**GENITO-URINARY**

590 Nephritis, nephrosis
600 Other urinary
610 Male genitals
620 Breast, ovary, tubes
630 Uterus, other
640 Pregnancy & delivery

**SKIN**

690 Infections
700 Other

**BONE**

720 Arthritis & rheumatism
730 Osteomyelitis & others
740 Other muscle & skeletal
750 Congenital
760 Infancy

**SENILITY & SYMPTOMS**

780 CNS & senses (coma, convulsions), tinnitus, etc.
782 Cardiovasc. edema, failure, etc.
783 Respiratory cough, hemoptysis
784 Upper GI; anorexia, belching
785 Abdominal, lower GI; hepatomegaly, ascites, jaundice, flatulence, etc.
786 G.U.; colic, retention, dyspareunia, polyuria, etc.
787 Limbs and back; backache, transient paralysis
788 Other general symptoms: dehydration, wt. loss, alkalosis, fever of undetermined origin, abnormal urine
790 Senility & ill-defined conditions; debility, headache, asphyxia

**ACCIDENTAL POISONING & VIOLENCE**

800-999

**NATURE OF INJURY**

800-930

**BURNS**

940

This partial listing is included to illustrate the manner in which the index is refined to include specific headings within the filing system.

## Infective and Parasitic (001-138)

001 Resp. tb with occup. diseases
002 Pulmon. tb
003 Pleural tb
004 Pleural eff., cause unmentioned
005 Primary tb
006 Tracheobronch. gland tb
007 X-ray suggests (tb not classified)
008 Resp. tb (not lung)
009 Tb, unspecified site
010 Tb, cns and meninges
011 Tb, intestine, perit., mesent.
012 Tb, bone and joint
013 Late effects of tb bone and joint
014 Tb, skin and subcut. tissue
015 Tb, lymphatic system, scrofula
016 Tb, genitourinary
017 Tb, adrenals
018 Tb, other organs
019 Tb, disseminated (not lung)

### SYPHILIS AND SEQUELAE (020-029)

020 Congenital syph.
021 Early syph.
022 Aneurysm of aorta
023 Other cardiovasc. syph.
024 Tabes dorsalis
025 General paresis
026 Other syph. of cns
027 Other forms of late syph.
028 Latent syph.
029 Syphilis unqualified

### GONOCOCCAL AND OTHER VD (030-039)

030 Acute or unspecified
031 Chronic GC of genito-urinary tract
032 GC of joint
033 GC of eye
034 GC of other sites
035 Late effects of GC inf.
036 Chancroid
037 Lymphogranuloma venereum
038 Granuloma inguinale
039 Other; bubobalanitis, urethritis, vaginitis.

### INFECTIONS, GASTROINTESTINAL (040-049)

040 Typhoid
041 Paratyphoid
042 Other salmonella
043 Cholera
044 Brucellosis
045 Bacillary dysentery; Flexner, Shiga Sonne
046 Amebiasis
047 Other protozoal dysentery
048 Unspecified dysentery
049 Food poisoning; Staph., Botulism, etc.

### OTHER BACT. DISEASES (050-064)

050 Scarlet fever
051 Strep. sore throat
052 Erysipelas
053 Septicemia and pyemia
054 Bacterial toxemia (not food)
055 Diphtheria

056 Whooping cough
057 Meningococcal infections
058 Plague
059 Tularemia
060 Leprosy
061 Tetanus
062 Anthrax
063 Gas gangrene
064 Other bacterial inf.

**SPIROCHETAL DISEASES (NOT SYPH.) (070-074)**

070 Vincent's inf.
071 Relapsing fever
072 Leptospirosis (Weil's)
073 Yaws
074 Other spiro. and leptospiro

**VIRUSES (080-096)**

080 Acute polio
081 Sequelae polio
082 Acute inf. encephalitis
083 Sequelae; acute inf. enceph.
084 Smallpox
085 Measles
086 Rubella (German measles)
087 Chicken pox
088 Herpes zoster
089 Mumps
090 Dengue
091 Yellow fever
092 Inf. hepatitis
093 Infectious mono.
094 Rabies
095 Other viral diseases

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on the front page of the loose leaf book).

We are thus able to save rapid access to any written material collected in any form on a particular subject.

The correlation of new information with previously learned material made possible by this rapid scanning has justified the somewhat greater initial effort of coding articles according to a printed list. It offers the benefits inherent in a small telephone book.

The user must arbitrarily classify subjects not listed. Antibiotics are classified with "Other Infective Diseases (138)." Electrolyte problems are listed with "Metabolic Diseases (289)." Surgery is placed in relation to the organ involved.

This International Classification is available in most large medical libraries. A companion volume (II) is an alphabetical index from which code numbers may be correlated; we have never needed it.

## Growth

Your collection of articles should be something that can grow as you grow—and in an orderly manner. With a carefully planned system based on an established nomenclature, you will find that your reference material is a stimulating and useful adjunct to your daily experience. And since one day you will probably have a secretary, don't personalize your system to such an extent that another person will be unable to help you locate or file your reference material.

## Copies

One final note. There are few

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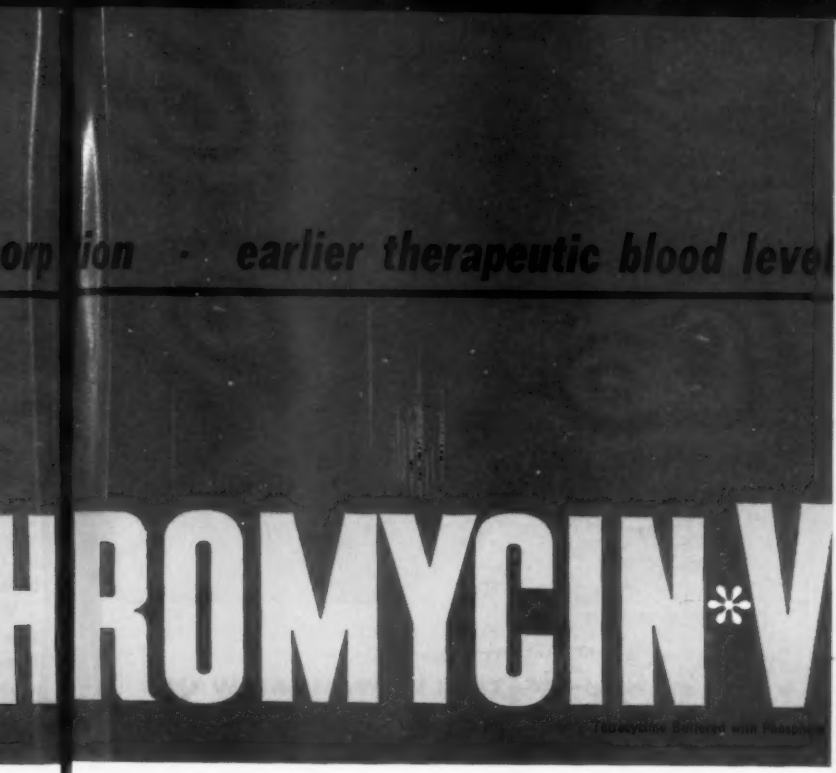


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**ACHROMYCIN V** is now available in—**CAPSULES.** (Pink) 250 mg., 100 mg. (tetracycli HCl equivalents, phosphate-buffered). **SYRUP.** Each teaspoonful (5 cc.) of orange-flavor syrup contains 125 mg. of tetracycline HCl activity, phosphate-buffered. Bottles of 2 and 16 oz. **LIQUID PEDIATRIC DROPS.** Each cc. (20 drops) contains 100 mg. of tetracycl HCl activity, phosphate-buffered. (Approx. 5 mg. per drop). Orange Flavor. Plastic dropper-ty bottle of 10 cc. **RECOMMENDED BASIC ORAL DOSAGE:** 6-7 mg. per lb. body wei per day. In acute, severe infections often encountered in infants and children, the dose sho be 12 mg. per lb. body weight per day. Dosage in the average adult should be 1 Gm. divided i four 250 mg. doses.

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things worse than the individual who removes a journal from a medical library, appropriating it permanently for his own use—unless it be a doctor who tears an article from a library copy of a journal.

If you come across an article while in a library which you'd like to have for your own reference you may 1) write the author for a reprint, or 2) ask the librarian if she could duplicate the article for you. Most hospitals have some sort of photo-duplicating machine whereby you may have a single copy made at nominal cost.

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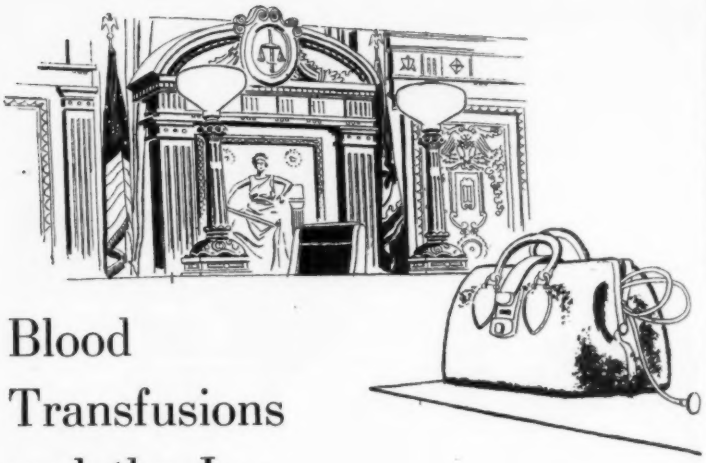


# Blood Transfusions and the Law

**Transfusions are not without risk. There should be a clear indication for the procedure. Extreme care in typing and cross-matching, labeling and storage are all-important in safeguarding the transfused patient. The Law looks for specific evidences of negligence. Far too often, such evidences are found.**

**George A. Friedman, M.D., LL.M.**

Between four and five million transfusions are performed annually in the United States.

It has been estimated that there is one death in approximately three thousand transfusions. Yet, with the proper safeguards, a blood transfusion is a life-saving measure; a great help in the treatment of blood dyscrasia; an adjunct in preparing a patient for operation; a primary factor in making possible a needed operation.

Since a blood transfusion is a procedure that is not without risk there must be a definite indication for it. A transfusion must be surrounded with every possible safeguard to reduce every possible margin for error. There are many peo-

ple involved in the chain of transfusion command from donor to recipient. Each must realize his responsibility to insure the success of the transplantation of this vital floating tissue.

Harvey's publication in 1628 which described the physiology of the circulatory system was the cornerstone in the development of the intravenous route for the introduction of solutions.

Landsteiner in 1900 solved the question of blood compatibility with his classification of blood into four groups. Then followed in 1915 the citration of whole blood, and some years later the description of the M, N and P blood types.

In 1940, Landsteiner and Wiener described the Rh factor, the commonest cause for intra-group incompatibility.

The Kell, Lutheran, Lewis and Duffy systems are other antigens of recent investigation which produce antibodies of human origin.

## Wrong person

An actionable wrong takes place if the wrong person receives a transfusion. A patient was recovering from a kidney operation; she was given a blood transfusion by an intern and a nurse despite her protests that the doctor who ordered the transfusion was not her doctor and that the donor who was her daughter was a mistake because she had no daughter.

In spite of these remonstrances, the transfusion, which had been ordered for another patient by a different physician, was started. She became ill and the transfusion was then discontinued.

The patient suffered headaches, menopause was hastened and she had to be committed to a mental hospital for some time. It was held that the hospital was liable for trespass, assault and negligence on the part of its employees.

A hospital is required to select professionally qualified employees for its staff. However, the performance of these employees of non-professional duties will open the hospital to liability for their negligent acts. By entering the wrong room the nurse and intern ceased to perform professional duties.

A distinction was drawn between the negligent performance of professional acts, for which the hospital would not be liable, and the negligent performance of administrative acts. Had the nurse and intern entered the right room and administered the transfusion in a faulty manner the hospital would not have been liable.[1]

## Switched labels

In another case the technician correctly typed and cross-matched the blood for two patients who were to undergo surgery. This particular surgeon routinely ordered blood for all patients who were to undergo major surgery. He had two cases scheduled for that afternoon. The anesthetist,

without reading the labels, believing that both bottles were for one patient, started the transfusion using the bottle meant for the second patient. By this time the patient was under anesthesia and did not develop a warning chill but went directly into shock, developed complete anuria and died.[2]

Where a technician negligently mislabeled blood after correctly typing and cross-matching it the decedent was transfused during an operation with her resultant death. Since the technician was an employee performing his ordinary tasks the hospital was held liable for this death which was due to the technician's negligence.[3]

Whenever two patients require transfusion at the same time, interchange may occur as the result of a failure to read labels. Special care must be exercised when patients of identical or similar names require transfusion since through inadvertence the patient may receive the wrong blood.

## Storage

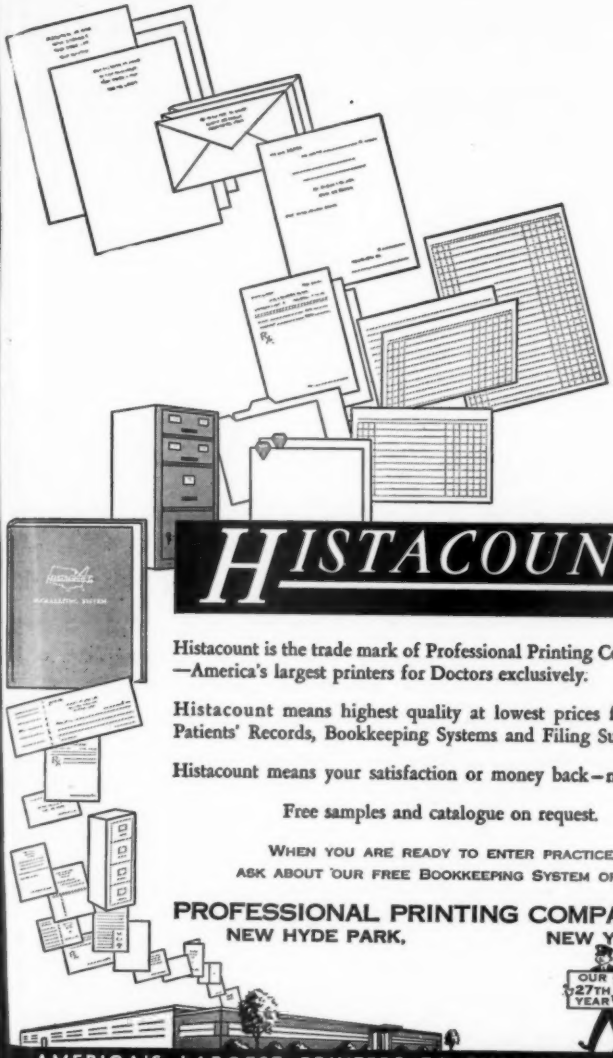
In order to avoid legal repercussions, blood must be stored and refrigerated under the proper conditions. Whole blood plus proper anticoagulant in the United States may be kept preserved for twenty-one days under continuous refrigeration at 4 to 10 degrees Centigrade. Either freezing or excessive warming may result in the hemolysis of the stored blood. The products of hemolysis are toxic since the released hemoglobin causes hemoglobinuria and the other symptoms of a hemolytic reaction. Further, blood during storage must be kept as free of contamination as possible to avoid a pyrogenic reaction.

## Compatibility

The compatibility of blood must be established before transfusion. If a patient is injured because of the transfusion of incompatible blood it is legally prima facie evidence of negligence. A mistake in blood typing was made by a technician who was hired and paid by the hospital although she worked under the supervision of an outside physician.

The hospital was held liable for the death of the patient which resulted from the incompatibility of the blood. The court here applied the doctrine of respondeat superior (let the master respond for the negligent acts of his servant) since the technician had reported the blood compatible.[4]

Accurate blood grouping is imperative. The patient's red blood cells are tested with anti-A and anti-B serum. Also the patient's plasma must be checked for its isoagglutinin content against known cells of group A and B. Further the blood of donors and recipients must be cross-matched by a sensitive technique. The cell suspension of the donor is tested against the serum of the recipient and vice versa as an additional check. The cross-match



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will detect incompatibility or error, the presence of blocking antibody as well as saline agglutinin. An initial transfusion of incompatible blood may be uneventful or give rise to a reaction from which the patient recovers.

As a result of the transfusion of incompatible blood the iso-antibody titer will rise so that if the error is repeated a fatal reaction could result.

### Telephone

Unger[5] reported a case where the patient's blood was found to be group O, Rh positive. The technician *telephoned* the result to the resident who at the time was busy and thus postponed ordering the blood. Later as the need for the blood became an emergency he mistakenly ordered group A, Rh positive blood. The technician who then found herself pressed for time mistakenly reported that the cross-match showed the blood to be compatible. The patient died.

At times of emergency or when the hospital is understaffed as on week-ends and holidays when incompletely trained personnel may be on duty extreme care and attention should be given to the proper typing and cross-matching of blood.

Physicians should be aware that these personnel may not be confident in themselves and therefore need a certain amount of supervision. Also *the importance of labels on all transfusion and testing materials must constantly be stressed to all personnel.*

A physician directed a blood transfusion for a patient who was being treated by him for arthritis. The laboratory technician reported her as type A, Rh *positive* when she was in fact type A, Rh *negative*. Some time after the transfusion she became pregnant. Her child was still-born as the result of the infusion of the wrong Rh type blood. As a result she had to undergo several operations because of the difficulty in childbirth. The court awarded her damages of $17,500 and her husband $2,500 holding that the blood testing was an administrative act for which the hospital could be held liable under the doctrine of respondeat superior.[6]

### Reaction

If a hemolytic reaction occurs as the result of the transfusion of Rh positive blood to an Rh negative patient it is generally considered prima facie evidence of negligence. Patients with a history of previous transfusions or multiparous women and especially those who have borne infants who suffered hemolytic disease need special attention. These patients are more likely to evidence intra-group antibodies.

An unfavorable reaction by the recipient is considered a blood transfusion reaction. Its severity in individuals who have been previously sensitized depends largely upon the amount of blood transfused. Fatali-

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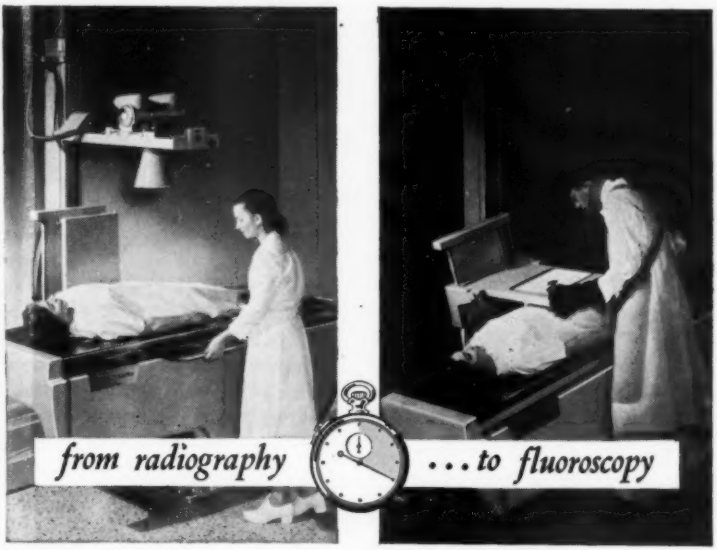


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ties in adults are unusual with amounts less than three hundred cubic centimeters.

*The first portion of a transfusion should be given slowly and the patient watched for signs of a reaction.*

A hemolytic transfusion reaction manifests itself in chills and fever, pain and shock with the resultant lowering of blood pressure. Examination of the blood will reveal hemoglobinemia. There will also be evidence of hemoglobinuria and later jaundice may develop. When the transfusion is given during anesthesia there is great dependence upon the reported laboratory findings; however the anesthetist must be alert to any sudden drop in blood pressure for signs of shock which may at times be difficult to detect.

Embolism and thrombophlebitis have been reported to have occurred as sequelae following transfusion. There may be an allergic reaction which manifests itself with the symptoms of asthma. Angio-neurotic edema may ensue which may also give rise to laryngeal swelling. These reactions have been ascribed to the presence of a food-stuff allergen in the donor's plasma to which the recipient is allergic. The transfusion should be immediately discontinued if there is urticaria, wheezing or swelling.

The transfusion must not be given too rapidly or in too great quantity lest overloading of the circulation take place. Pyrogenic reactions occur if the blood is contaminated resulting in chills and fever. A citrate reaction has been described which results from massive transfusions resulting in signs of hypocalcemia and a drop in blood pressure. Unger suggests the addition of calcium gluconate after each thousand cubic centimeters of transfused blood.

## Hepatitis

The transmission of disease is a risk that the recipient of blood must be willing to undergo in order to receive blood. Homologous serum hepatitis results once in every six thousand transfusions and is one of the greatest dangers of transfusions at the present time. Experiments suggest that ultraviolet irradiation destroys the virus that spreads hepatitis but it has been shown that such irradiation is not always effective.

Plaintiff brought suit alleging that as the result of receiving a blood transfusion she developed homologous serum hepatitis; that the presence of inpurities in the blood was a violation of the implied warranty of fitness which attaches to a sale of goods. This novel approach was rejected by the Court of Appeals which held that a patient in a hospital contracts primarily for the services and facilities available and not for the sale of specific items, e.g., blood.[7]

Had the court decided that a transfusion is a sale, the patient's burden of proof would have been greatly simplified. In a breach of warranty

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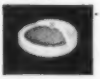

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action the only evidentiary requisites are: (1) the sale, (2) the warranty (which is often implied in law) that the article is fit for the particular purpose for which it is normally used, (3) the breach of the warranty, and (4) injury flowing from the breach.

No matter how careful the hospital might have been it would then still be liable. This must be contrasted with the present situation where the plaintiff must allege and prove some specific act of negligence.

Future developments may lead to the legal conclusion that a hospital which fails to irradiate plasma may be guilty of negligence.[8]

In another action New York State was sued when plaintiff developed homologous serum hepatitis after infected plasma was supplied to him. The plasma had been distributed to the hospital by New York State from a supply of war surplus. Plaintiff's administrators sued on the theory that the state had been negligent in distributing the plasma when its own research established the incidence of serum jaundice at 4.8%. It was held that since doctors had knowledge of the risks involved in blood plasma administration, it was a case involving the soundness of medical judgment. Emergency conditions dictate the need for plasma (here plaintiff was found in an unconscious condition). Therefore the state was not at fault in distributing the plasma since the risks must be balanced with the benefits available. The question of irradiating plasma was dismissed as too recent a medical development to apply. Further, the court held that the state was not at fault in failing to place a warning label on the plasma package because (1) it was not the manufacturer, and (2) even if it were the manufacturer, members of the medical profession do not have to be warned against generally known risks.[9]

### Other infection

The transmission of malaria by means of transfusion is difficult to control in those parts of the world where the disease is endemic. Returnees from World War II and Korea who became blood donors must be questioned as to whether they ever had malaria.

The Plasmodium malariae has been reported to have been transmitted by donors who had the disease many years previously.

Measles and influenza can be transmitted by transfusion.

In Hoyt v. Cornwall Hospital[10] the patient alleged that as the result of two blood transfusions she became infected with syphilis. She was held to be entitled to an examination before trial and the hospital was required to produce records concerning the transfusions. Her main allegation was that the hospital was negligent in failing to test blood donors for venereal disease. This seventeen year old case is presented to illustrate that today the trans-

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mission of syphilis by transfusion has been practically eliminated.

A Texas case involved a donor who was repaying a loan of blood. The plaintiff claimed she received an infection from a non-sterile needle. The trial court held that she failed to prove the source of the infection and took the case from the jury to render judgment for the defendants, Shannon Hospital and Baylor University. An arrangement existed between the two whereby Shannon performed the phlebotomy with kits supplied by Baylor and then shipped the blood to Baylor to be made into plasma. Evidence showed that the infection followed the blood donation. On appeal the trial court was affirmed since the plaintiff had failed to show the source of the infection; the complaint was dismissed.[11]

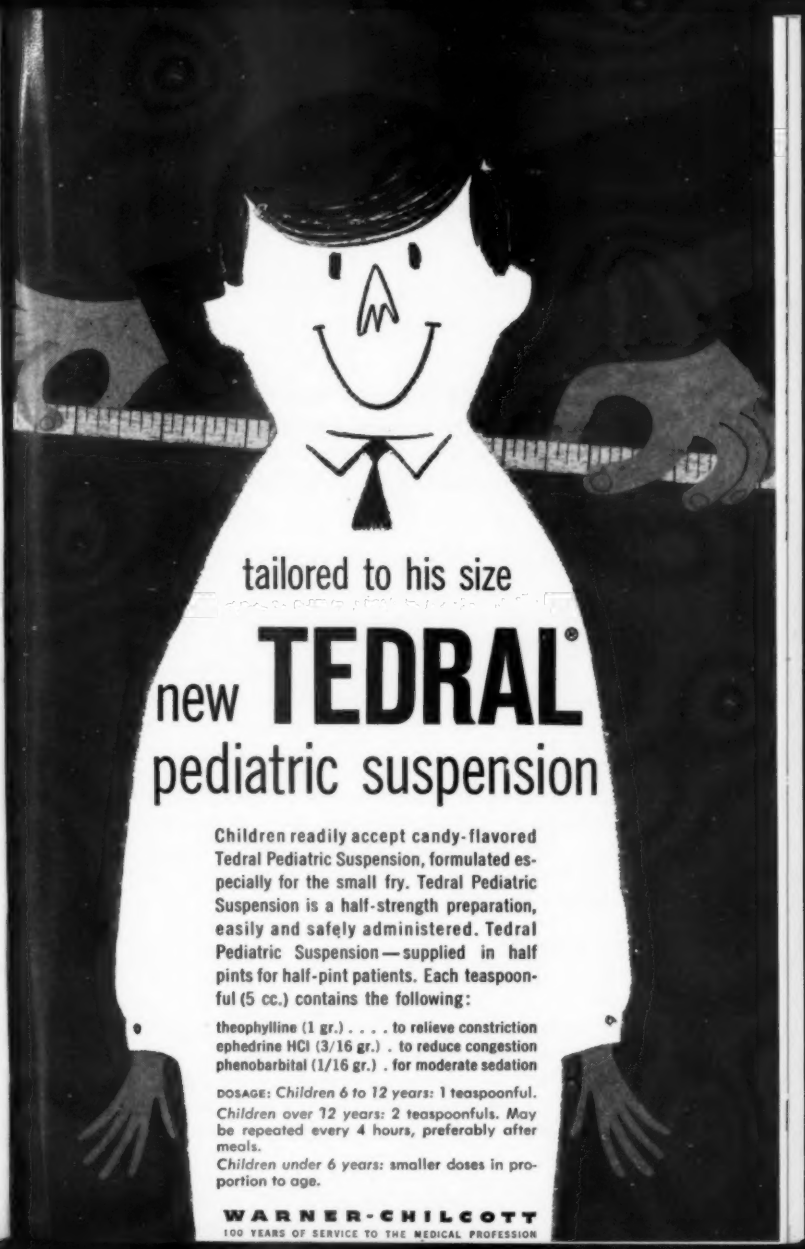
**Sterile procedure**

The donor of blood must be protected. A proper history must be taken and anemia must be ruled out. The arm should be properly prepared and the blood taken with all sterile precautions. Thrombosis and infection should be guarded against. A doctor should be in attendance and the donor watched to prevent fainting.

In an Illinois case an interesting constitutional question arose when a child's parents refused to consent to a blood transfusion. Due to the existence of erythroblastosis fetalis (a condition resulting from the entrance of the maternal Rh antibodies in the fetal circulation causing damage to the latter's erythrocytes) the infant required an immediate transfusion. A guardian was appointed by the court and the transfusion was successfully conducted. The child was eighty days old at the time that court proceedings were started and this appeal is taken because the parents claim their constitutional rights of freedom of religion were violated. Held: the state has a primary interest in the welfare of its children. The parents were neglecting the infant by failing to submit to blood transfusions for their child. There is no violation of religious liberties since the practice of religion cannot be done so as to expose children to ill health or death. The need for the transfusion and the simplicity of the operation was established by competent medical testimony.[12]

**BIBLIOGRAPHY**


1. Necolayff v. Genesee Hospital, 270 App. Div. 648, 61 N.Y.S. 2d 832.
2. Dangers Associated with Blood Transfusion, Unger, L. J. N.Y.J. Med. 51:1307-1316.
3. Mississippi Baptist Hospital v. Holmes, 55 So. 2d 142 (1951).
4. National Homeopathic Hospital v. Phillips Adm'r, 181 F. 2d 293.
5. Same as note 2 supra.
6. Berg v. N. Y. Society for Relief of Ruptured and Crippled 136 N.Y.S. 2d 528 (Sup. Ct. 1954).
7. Perlmutter v. Beth David Hospital, 308 N.Y. 100, 123 N.E. 2d 792 (1954).
8. Allen, Emerson, Barrow and Sykes, Pooled Plasma with Little or No Risk of Homologous Serum Jaundice, 154 J.A.M.A. 103 (1954). Note, 30 N.Y.U. U. L. Rev. 1253 (June 1955).
9. Parker v. State of New York, 105 N.Y.S. 2d 735 (Ct. Cl. 1951).
10. Hoyt v. Cornwall 169 Misc. 361 (N. Y. Supreme Ct. 1938).
11. Brown v. Shannon West Texas Mem. Hosp. 22 S.W. 2d (Tex. Ct. Civ. App. 1949).
12. People ex rel. Wallace v. Labrenz, 105 N.E. 2d 769, 411 Ill. 618 (1952).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# Equipping the Pediatric Office

**The time to start planning your choice of office equipment is now. Practicing pediatricians offer some tips on what you need from the first day in practice and what items might better be postponed until later.**

The pediatric office is unique in at least one important respect. The pediatrician deals with two parties: the child patient, and the adult who brings the child to the office. Your office must be designed to attract, please and accommodate both. Thus, from the first, the pediatrician will realize that his office, at least the waiting room, must represent a compromise between living room comfort and playroom utility.

In planning your waiting room, keep this advice in mind as offered by pediatricians surveyed: The waiting room should be functional and soothing. Not luxurious. Frills, furbelows and fussy decorations are out, though your inclination (and your wife's) may be to jazz up the atmosphere as a delight to the youngsters.

### Floor covering

First of all, carpeting is neither necessary nor desirable. Consider a rainy day, 14 children with muddy feet, and the impracticability of carpeting becomes obvious. Also, carpets are not cheap—either to buy or to keep clean.

According to the great majority of practicing pediatricians interviewed, a colorful, composition tile or linoleum in the waiting room looks fine, stands continued abuse, and is

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relatively easy to maintain. And too, there is an unlimited variety of nursery designs and circus type prints to choose from at prices which won't crack your limited budget.

A waiting room of average dimensions can be covered with an attractive tile or linoleum for under $100 as against carpeting costs of nearly three times that amount.

For a pleasing accent on the tiled floor, a couple of *nonskid* throw rugs which can be laundered will fill the bill perfectly, report pediatricians in our survey.

### Chairs

Two types of chairs can be used to advantage; chairs for the parents and smaller chairs for the children. Adult chairs should be comfortable but *strong*. While intended for the parents, they will frequently be used by the mother and her offspring at the same time.

Safety of course is an important factor. Sturdy chairs that will not tip over easily, having smooth arms and legs without projecting decorations, are a must.

Plastic-covered wooden chairs are a good choice. These are comfortable, come in attractive colors and are washable. They can be purchased as separate units, with or without arms, or in units of two or three matching pieces to make a functional couch arrangement. Chairs of this type cost from $25 to $35 each.

Since the average waiting room of the pediatricians consulted had chairs for six adults, you should figure on about $150-$250 for adult chairs.

Children's chairs are smaller and

**What equipment is needed by the pediatrician who is completing his residency and preparing to open an office?**

**RESIDENT PHYSICIAN recently put this question before a number of practicing pediatricians. Cautioned to keep in mind that cost was an important factor for the new man starting out, many responding specialists described some of the costly mistakes they had made when equipping their own offices.**

***Based on their experiences, this article is presented as a general guide for those residents who will soon be equipping their own offices for the practice of pediatrics.***

**Though such things as decor, style and layout of an office are best decided by each physician (or his wife), the resident would be wise to visit an office equipment firm since many offer a free consulting and advisory service. Some will even furnish your entire office on the cuff—and at reasonable installment rates.**

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cheaper. You can get them as rocking chairs or folding stools (not recommended), or low, sturdy chairs or benches (good). Prices run from $8 to $15. Though many pediatricians agreed you should have as many juvenile chairs in the waiting room as there are chairs for adults, most didn't have this many.

### Magazines, tables

The pediatrician's office will have magazines for parents and magazines for children. By placing adult magazines on wall racks above the children's reach, many pediatricians get better mileage from these periodicals.

Wall racks can easily be built by you or a local carpenter for less than $25. Manufactured racks are slightly more expensive.

Children's magazines should be placed on a low level so the child won't have to annoy his parents each time he wants another magazine. Locate them in play boxes along a wall or on low, sturdy magazine tables. Simple tables can be purchased for $20 to $25 each. Unpainted tables are quite a bit cheaper and can be painted bright colors by you or your wife.

### Lamps

Floor lamps and children don't mix. Table lamps are easily toppled. A good suggestion is to have most of the lighting from ceiling or wall fixtures. These lights can be attractive, cheap, give good reading light, and more important, they can't be tipped or broken easily. Prices vary considerably. But good looking lamps for wall use can be purchased for $15 to $25.

If you must have table lamps,

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**2. Make a tentative list of equipment items you think you'll need immediately — together with cost estimates.**

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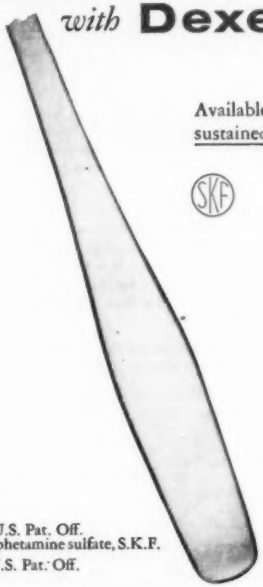

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keep them safe and simple. There should be no glass to break and cause injury to your patients. Ornate lamp shades will quickly be damaged, adding nothing to the room except disorder and extra dust to bother allergic patients.

### Play area

Most pediatricians recommend a special play area for children in the waiting room. This can be arranged so as to keep children out of the parent's way and at the same time give the children some occupation while they are waiting. A corner of the main waiting room equipped with a play box and toys is adequate. A small room off the main waiting room is better.

Expense can be kept down by the purchase of a children's play box for $10-$20 and another $15 for a few toys.

Toys, of course, should be purchased with safety in mind. Riding toys that may collapse and injure the child should be avoided. Toys having many small parts which can be swallowed or get under a child's feet should also be avoided. The best and cheapest toys are washable-plastic, stuffed animals; reading games, and drawing books for children. Crayons can be bought which will easily wash off walls and furniture.

### Consultation room

The consultation room is where the physician and the parent discuss the child's illness. Economy often dictates this being combined with the examining room. A desk is required; its size and style will depend upon the amount of space available. A good desk can be bought for $75 to $150. Plenty of drawer space will help accommodate records and literature.

Three chairs are required as a minimum. One for the physician, one for the patient, and one for the patient's parent. A fourth for the second parent can come later.

Give extra attention to your own chair. In all your years of practice this will be your closest companion. Good chairs are not "standard." Don't buy from a catalogue or from a picture. Try it out first. It should cost you no more than $125. Patient and parent chairs may be armless to save expense and can be purchased for about $35 each.

The rest of the consultation room will depend upon your own taste. Bookcases are necessary. These can be both functional and decorative. Wall bookcases save space, can be built by you or a carpenter. Incidentally, ask for "shelves" not a "bookcase." When a "bookcase" is requested the price goes up. A good-sized sample cabinet should also be considered.

If you have a separate consultation room you can get a carpet. It does add dignity and also tends to muffle the conversation. A good carpet with suitable backing can be purchased for about $8 to $10 a square yard. This should include the installation.

You'll need a desk lamp. The only consideration besides taste is to choose one which reflects its light downward and therefore will not be in the patient's eyes. Such a lamp can cost as little as $15 up to $50.

### Examining tables

Unless you intend to limit your practice, the examining room should have two types of tables: a large table for older children and a smaller one for infants and newborn. A commercial table can be purchased in a medical supply house for prices from $250 to $450.

The more elaborate and expensive tables have built-in scales and measuring devices. The new pediatrician might well do without these deluxe models. A kitchen supply house will build you a table to your directions and specifications as to height and width for about $150. It can be brush-painted or sprayed in any desired color. The mat will be extra. A good adult examining table can be bought second-hand. The pediatrician's table doesn't require drains, special cabinets for surgical instruments, or electrical outlets.

### Other equipment

A sterilizer is needed of course. Get a good one. Electrical connections and instruments deteriorate

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1. Locket, S.: Brit. M.J. *1*:809 (Apr. 2) 1955.

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2. Wright, W.T., Jr., et al.: J. Kansas M. Soc. *57*:410 (July) 1956.

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with age and since a new sterilizer can be purchased for about $100, don't bother with a second-hand one.

Two scales are needed; one for infants and one for older children. A good infant scale usually costs $35 to $50. Adult scales can be purchased for under $75.

You will need at least two spot lights. The type that can be clamped on the wall are handy and yet out of the way when not needed. Each should cost about $25 to $50.

### X-ray and fluoroscope

The question of whether or not to purchase an x-ray or fluoroscope is an involved one. Pediatricians consulted disagreed on this point. An x-ray is expensive and even if purchased second-hand will cost $1200 or more. Then there's the expense of a special dark room and solutions which must be kept in decent condition.

In an active practice, with a large volume of patients, the return on your investment would probably be excellent. In the beginning practice, the call for x-rays is limited. The three or four x-rays needed in a busy month can easily be turned over to a radiologist. Later, when the practice has grown, it may be wise to purchase an x-ray. If you can afford one now, well and good. But most new men can't.

As a rule, fluoroscopes are less expensive than x-ray equipment. In some locations, patients may feel that any good pediatrician will have facilities for fluoroscopic examination. Fluoroscopes are either upright or horizontal. They are equally good. The type chosen pretty much depends upon the space available and the physician's past training.

A used fluoroscope can be bought for $500 to $600, while a new one would cost $1000 or more. While the fluoroscope will be guaranteed if bought in a reliable supply house, it is important to get a separate guarantee on the fluoroscopic tube.

A good apparatus to consider is a type of fluoroscope-x-ray arrangement that can double as an examining table. While the apparatus may be no more than 15 or 20 milliamps, for children this is usually sufficient. The price of this dual purpose equipment is usually around $1200-$1500 new, $700-$800 second-hand. Considering the price of an examining table by itself, this equipment can be a bargain.

The examining room also requires a refrigerator for the physician's antibiotics. There are many types but one should be chosen with enough cubic feet of space. The price, if new, will vary from $125 to $175.

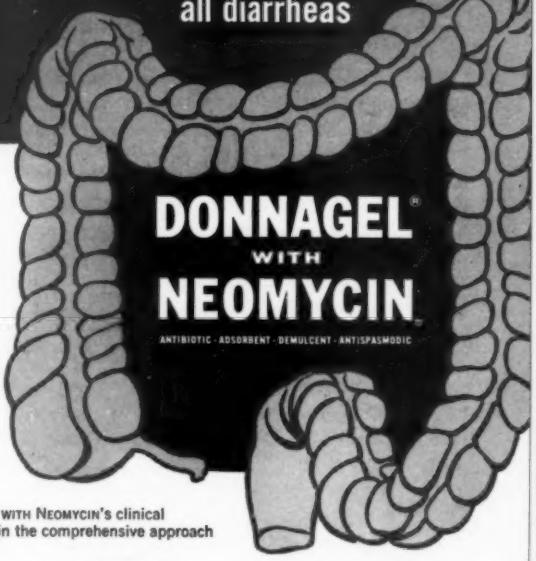
### Laboratory equipment

Every pediatrician should have facilities to do a complete blood count, a routine urine analysis, and a sedimentation rate. The equipment required needn't cost more than $75.

*– the preparation you've asked for*

**ANNOUNCING: A NEW antidiarrheal for**

## more certain control of virtually all diarrheas




Addition of neomycin to the effective DONNAGEL formula assures even more certain control of most of the common forms of diarrhea. Neomycin is an ideal antibiotic for enteric use: it is effectively bacteriostatic against neomycin-susceptible pathogens; and it is relatively non-absorbable.

The secret of DONNAGEL WITH NEOMYCIN's clinical dependability lies in the comprehensive approach of its rational formula:

| COMPONENT in each 30 cc. (1 fl. oz.) | ACTION | BENEFIT |
|---|---|---|
| Neomycin base, 210.0 mg. (as neomycin sulfate, 300 mg.) | antibiotic | Affords effective intestinal bacteriostasis. |
| Kaolin (6.0 Gm.) | adsorbent, demulcent | Binds toxic and irritating substances. Provides protective coating for irritated intestinal mucosa. |
| Pectin (142.8 mg.) | protective, demulcent | Supplements action of kaolin as an intestinal detoxifying and demulcent agent. |
| Dihydroxyaluminum aminoacetate (0.25 Gm.) | antacid, demulcent | Enhances demulcent and detoxifying action of the kaolin-pectin suspension. |
| Natural belladonna alkaloids: hyoscyamine sulfate (0.1037 mg.) atropine sulfate (0.0194 mg.) hyoscine hydrobromide (0.0065 mg.) | antispasmodic | Relieves intestinal hypermotility and hypertonicity. |
| Phenobarbital (¼ gr.) | sedative | Diminishes nervousness, stress and apprehension. |

**Robins**

**Informational literature available upon request.**

**INDICATIONS:** DONNAGEL WITH NEOMYCIN is specifically indicated in diarrheas or dysentery caused by neomycin-susceptible organisms; in diarrheas not yet proven to be of bacterial origin, prior to definitive diagnosis. Also useful in enteritis, even though diarrhea may not be present. **SUPPLIED:** Bottles of 6 fl. oz. At all prescription pharmacies.

**DOSAGE: Adults:** 1 to 2 tablespoonfuls (15 to 30 cc.) every 4 hours. **Children over 1 year:** 1 to 2 teaspoonfuls every 4 hours. **Children under 1 year:** ½ to 1 teaspoonful every 4 hours.

**ALSO AVAILABLE:** DONNAGEL, the original formula, for use when an antibiotic is not indicated.

A. H. ROBINS CO., INC., RICHMOND 20, VA.

A microscope can be purchased second-hand for about $150. The investment is small and the need is absolute.

More expensive equipment, required for detailed blood chemistries, is not needed for the first year.

A good yardstick for your equipment budget is this: if an item will pay for itself in the near future, it is needed and well worth the expense; if it will take years to return your investment and is not needed urgently, then consider postponing its purchase.

A few surgical instruments are necessary. You should be able to do minor suturing in the office. Necessary instruments can be acquired for less than $100.

### Printing

There are a number of incidental items which should be included in the office equipment budget. One of the most important of these, but often overlooked until the last minute, is "printing." This would include your announcements (to let the other doctors in your community know you're in business), personal cards, letterheads, billheads, case records, bookkeeping forms, etc.

The total expenditure you can expect to make for this type of necessary professional printing will be about $75. There are firms which make a specialty of supplying doctors' printing needs. Quite often it will save you time and money to order your forms, stationery, and a bookkeeping system from these specialists. In most cases, you can make all such arrangements by mail.

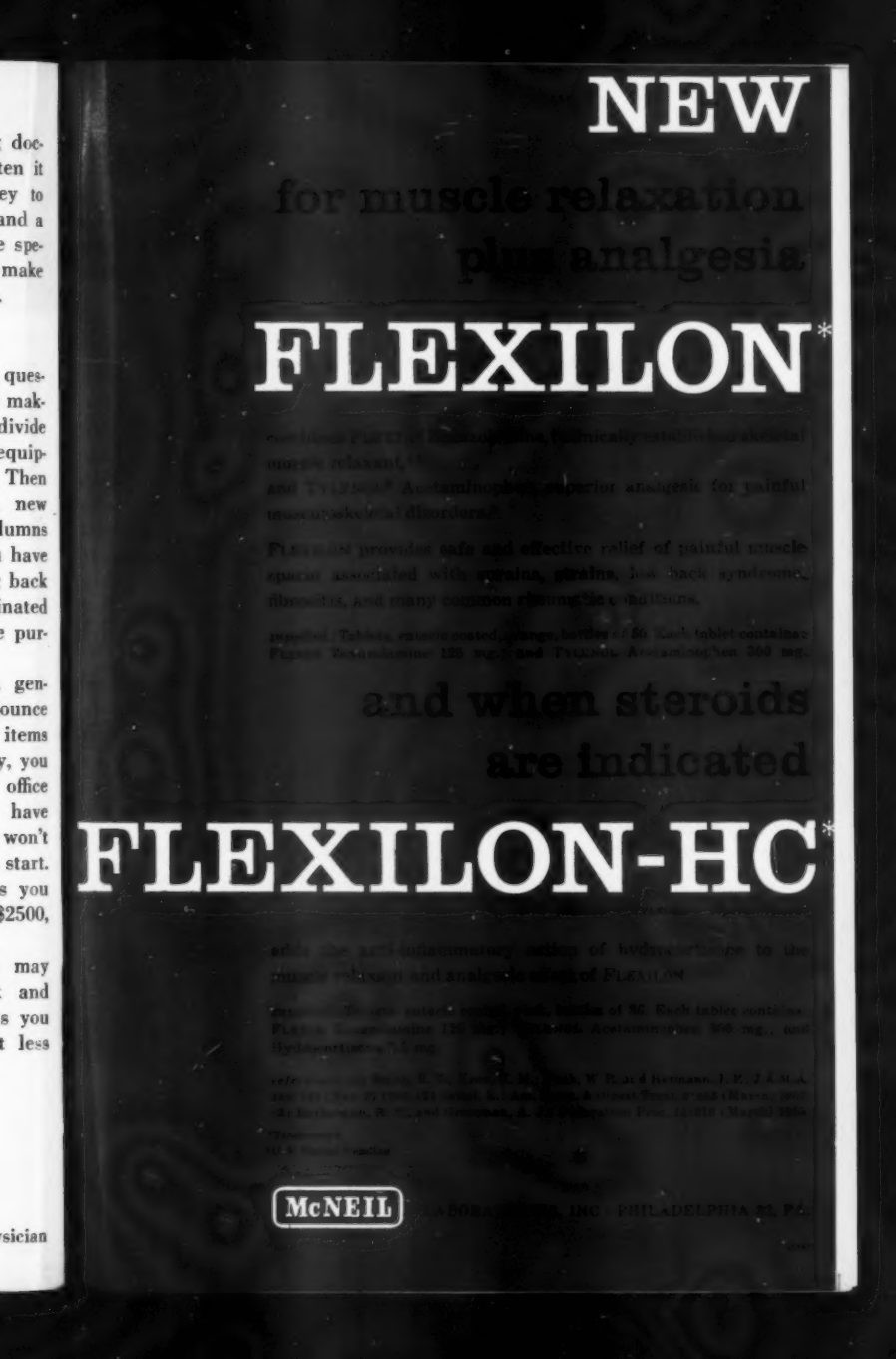
### How much?

Many of the pediatricians questioned emphasized the need for making a list. Make it complete—divide the medical from nonmedical equipment. Include every detail. Then start getting price estimates, new and used. Put these in columns alongside each item. After you have your totals then start checking back to see (1) what can be eliminated for now, and (2) what can be purchased for less.

Quality is important. As a general rule, cut out the extra flounce items before you get cheaper items of needed equipment. This way, you will build a quality-equipped office as you go along. What you have will be good even though you won't have everything right from the start.

For an office of four rooms you can figure on a minimum of $2500, a maximum of about $6000.

No matter how much you may have to spend, if you pick and choose carefully, comparing as you go, you'll get better value at less cost.


NEW
for muscle relaxation
plus analgesia
FLEXILON*
and when steroids
are indicated
FLEXILON-HC*
McNEIL

# WASHINGTON REPORT

**Current news items of special interest to residents and reserve medical officers, reported directly to your journal by the Army, Navy, Air Force, Veterans Administration and the Public Health Service**

## Air Force

**RESERVIST MEDICAL UNITS...** Activation of ten new medical units has been announced by the Continental Air Command, at Mitchel Air Force Base, New York (ConAC). These units will greatly augment facilities of the U. S. Air Force medical service in event of mobilization.

With facilities projected for 6,000 bed patients, the new medical units will be manned by Air Reservists from Center location areas. Brig. General Harold H. Twichell, ConAC surgeon, revealed that the units will be located at Air Reserve flying and training centers throughout the country.

Training of reservists assigned will be supervised by Air Reserve Centers. The reservists will be authorized the usual 48 training periods, plus 15-day active duty tours.

Medical unit reservists will train as a unit during their 15-day tours, while inactive duty training will be accomplished during weekends. Special short school training tours are also authorized.

Training at the medical units will include an individual specialty program designed to qualify individuals for duty performance in specific AF medical fields. This training, for the most part, will be accomplished through on-the-job instruction.

ConAc's AF Reserve medical training program provides refresher continuation and qualification training for prior service officers and airmen to train Air Reserve medical units and individuals to a high readiness degree as swiftly as possible.

Training facilities for reserve medical units will be provided

| Medical Units | Centers | Locations |
|---|---|---|
| 616th USAF Hospital (1,000 beds) | 2547th AFRC | Long Beach, California |
| 635th USAF Hospital (1,000 beds) | 2610th AResC | New York, New York |
| 657th USAF Hospital (1,000 beds) | 2692d AResC | New Orleans, Louisiana |
| 640th USAF Hospital (1,000 beds) | 2650th AResC | Chicago, Illinois |
| 622d USAF Hospital (500 beds) | 2693d AResC | Fort Worth, Texas |
| 619th USAF Hospital (500 beds) | 2609th AResC | Boston, Massachusetts |
| 620th USAF Hospital (250 beds) | 2698th AResC | Tampa, Florida |
| 628th USAF Hospital (250 beds) | 2611th AResC | Baltimore, Maryland |
| 631st USAF Hospital (250 beds) | 2643d AResC | San Francisco, California |
| 625th USAF Hospital (250 beds) | 2658th AResC | Indianapolis, Indiana |


when anxiety and tension "erupts" in the G. I. tract...

IN GASTRIC ULCER

PATHIBAMATE*

Meprobamate with PATHILON® Lederle

*Combines* Meprobamate (*400 mg.*) the most widely prescribed tranquilizer . . . helps control the "emotional overlay" of gastric ulcer — without fear of barbiturate loginess, hangover or habituation . . . *with* PATHILON (*25 mg.*) the anticholinergic noted for its extremely low toxicity and high effectiveness in the treatment of many G.I. disorders.

*Dosage:* 1 tablet t.i.d. at mealtime. 2 tablets at bedtime. *Supplied:* Bottles of 100, 1,000.

Lederle

*Trademark ®Registered Trademark for Tridihexethyl Iodide Lederle

LEDERLE LABORATORIES DIVISION, AMERICAN CYANAMID COMPANY, PEARL RIVER, NEW YORK

through joint use of Air Reserve Centers or other AF or Defense Department installations. In the event existing Government-owned facilities are not available, municipal or civilian facilities will be leased.

Eligibility requirements for program participation stipulate that individuals must be physically qualified and be immediately available for active military service in event of an emergency. Air Reserve officers must meet age-in-grade requirements, which provision does not apply to reserve airmen.

The ten medical units to be activated, the centers to which they are assigned and their locations appear on page 171.

For a full week end of inactive duty training, reservists receive four days' pay in the Reserve grade, with credit toward promotion and retirement as well.

Physicians who wish to take advantage of these additional opportunities for Reserve training and credits, should get in touch with the nearest Air Force Reserve activity or write to the Commander, Air Reserve Records Center, Continental Air Command, 3800 York Street, Denver 5, Colorado.

**RESIDENCY TRAINING . . .**

More than 200 physicians have entered residency training in the Air Force Medical Service since July 1956, and of the 300 who have applied for training beginning 1 July


**SUPERIOR TOLERANCE**

"Of the 75 patients receiving iron [MOL-IRON] therapy, [only] one was forced to stop treatment . . ."

(Am. J. Obst. & Gynec. 62:947, Nov. 1951)

**OUTSTANDING EFFECTIVENESS**

"We have never had other iron salts so efficacious . . ."

(Am. J. Obst. & Gynec. 57:341, Mar. 1949)

**RAPID RESPONSE**

". . . produced a substantially more rapid therapeutic response than ferrous sulfate..."

(Bull. Margaret Hague Mat. Hosp. 1:68, Sept. 1948)

*these are the hallmarks of*

MOL-IRON®
(Molybdenized Ferrous Sulfate)

*and it costs no more than ordinary iron preparations*

The outstanding therapeutic advantages of Mol-Iron have been established by more published clinical reports[1-14] during the past ten years, than are available for any other iron preparation.

Complete bibliography available on request.

# there is a specific

# MOL-IRON®

(MOLYBDENIZED FERROUS SULFATE)

# preparation to fit each patient's need

*For simple iron-deficiency anemia—*

## MOL-IRON TABLETS/LIQUID

*bottles of 100* *bottles of 12 fl. oz.*

Each tablet or teaspoonful of liquid contains ferrous sulfate, 195 mg. (3 gr.), and molybdenum oxide, 3 mg.

DOSAGE: Adults—2 tablets or 2 teaspoonfuls of liquid t.i.d.; children—1 tablet t.i.d. or ½ to 1 teaspoonful t.i.d.

*For protection against iron deficiency during infancy—*

## MOL-IRON DROPS well tolerated, highly palatable

*bottles of 15 cc. and 50 cc. with calibrated dropper*

Each cc. contains 125 mg. (2 gr.) ferrous sulfate and 2 mg. molybdenum oxide.

DOSAGE: Children up to 6 years—0.3 cc.; over 6 years—0.6 cc. daily.

*For iron-deficiency anemias complicated by impaired absorption of iron—*

## MOL-IRON c̄ VIT. C TABLETS

*bottles of 100*

Each tablet equals one Mol-Iron tablet plus 75 mg. ascorbic acid.

DOSAGE: As required—1 or 2 tablets t.i.d.

**For best results—**
**choose the right iron**

White's *White Laboratories, Inc., Kenilworth, New Jersey*

1957, about half have been accepted. Residency training under Air Force sponsorship is now offered at Lackland Air Force hospital, selected Army hospitals and many civilian hospitals.

Although the Air Force has a continuing requirement for physicians trained in all medical specialties, including aviation medicine, the greatest need is in obstetrics and gynecology, otolaryngology, pathology, neurology, pediatrics, psychiatry, cardiology, gastroenterology, allergy, and general practice. Physicians trained in industrial and occupational medicine are in great demand now because of the highly industrialized operations arising from the development of guided missiles, jet and rocket propulsion, and projected nuclear propulsion.

The Air Force provides uninterrupted residency training for its physicians until minimum formal Board requirements are fulfilled, and an increase in income if they qualify for a promotion in rank. All physicians are commissioned in the permanent grade of first lieutenant or higher, but all those who have completed a one-year internship are promoted to the temporary grade of captain on the effective date of active duty so that, with the exception of *interns*, no qualified physician serves in a grade lower than that of captain.


when anxiety and tension "erupts" in the G. I. tract...

IN DUODENAL ULCER

PATHIBAMATE*

Meprobamate with PATHILON® Lederle

*Combines* Meprobamate (*400 mg.*) the most widely prescribed tranquilizer . . . helps control the "emotional overlay" of duodenal ulcer — without fear of barbiturate loginess, hangover or habituation . . . *with* PATHILON (*25 mg.*) the anticholinergic noted for its extremely low toxicity and high effectiveness in the treatment of many G.I. disorders.

*Dosage:* 1 tablet t.i.d. at mealtime. 2 tablets at bedtime. *Supplied:* Bottles of 100, 1,000.

*Trademark ® Registered Trademark for Tridihexethyl Iodide Lederle

Lederle

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## NEW HOSPITALS . . .

Progress in the construction of new Air Force hospitals and other medical facilities is described in the latest annual report of the surgeon general of the Air Force.

Of the 43 new hospitals programmed for the United States under the USAF Military Construction Program, over 75 percent are either under construction or completed.

Since the completion of the new 400-bed hospital at Elmendorf AFB, Alaska in 1955, several more Air Force hospitals have been built overseas. Among these are those at Wheelus Air Base, Tripoli, Libya; Kindley Air Base, Bermuda; Harmon, Newfoundland; and Lajes, the Azores.


LATEST LITERATURE SUPPLIED
The latest information on Orinase* was made available to the profession during clinical testing period.. More than 70,000 requests for literature were received.

*Trademark, Reg. U.S. Pat. Off.—tolbutamide, Upjohn

THE UPJOHN COMPANY
Kalamazoo, Michigan
Upjohn



athlete's foot

- fast relief from itching
- prompt antimycotic action
- continuing prophylaxis

DESENEX®
OINTMENT and SOLUTION
buffered at pH 5.5
POWDER

For most effective and convenient therapy and continuing prophylaxis, use Desenex as follows:
At NIGHT the Ointment (zincundecate)—1 oz. tubes and 1 lb. jars.
During the DAY the Powder (zincundecate)—1½ oz. and 1 lb. containers.
After every FOOT BATH the Solution (undecylenic acid)—2 fl. oz. and 1 pt. bottles. Use only when skin is unbroken.
In otomycosis Desenex solution or ointment

Maltbie
Write for free sample supply to Professional Service Department.
Maltbie Laboratories Division, Wallace & Tiernan, Inc., Belleville 9, N. J.
PD-72

# Licensure for Foreign Graduates

## *in Maine, Maryland, Massachusetts and Michigan*

### *MAINE*

To be eligible for a license to practice medicine in Maine, a foreign graduate must:

- Be a citizen of the United States.
- Graduate from a school approved by the Maine Licensing Board.
- Have a one year internship in any approved hospital in the U. S. No other formal postgraduate work is required. Reciprocity is given if school of graduation is acceptable to the Board.

No distinction is made between an alien student and a U. S. citizen who went abroad for study.

For further information write to: Dr. A. P. Leighton, Secretary, 192 State Street, Portland, Maine.

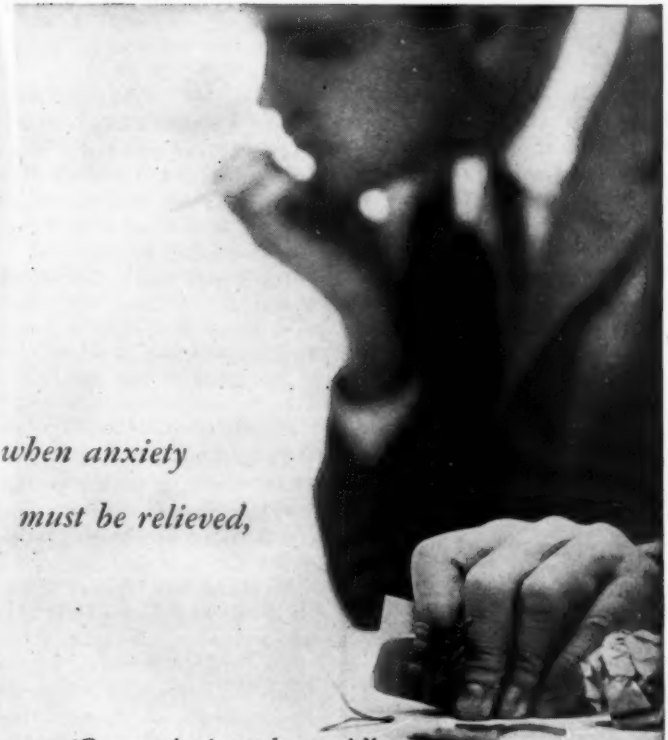
Include the school of graduation and entire medical education.

### *MARYLAND*

The State of Maryland requires that the applicant:

- Have first papers.
- If graduated from an approved foreign school, have one year of approved internship or residency in the United States and present at least two letters of recommendation from medical authorities of the U. S. hospital.

Graduates of foreign schools not on the Board's approved list must



*when anxiety*

*must be relieved,*

**'Compazine' works rapidly.**

A few hours after the initiation of therapy, most patients notice a lessening of their anxiety and tension. Improvement continues, reaching a maximum in from 3 to 5 days. Patients are emotionally calm, yet mentally alert.

# *Compazine*®

***the outstanding tranquilizer***

*Smith, Kline & French Laboratories, Philadelphia*

Patent Applied For

in any urinary tract disorder Pyridium is the specific for fast relief of pain, urgency, frequency and burning

Pyridium

WARNER-CHILCOTT

Pyridium brings relief within 20-25 minutes. Pyridium is compatible with and complementary to all specific therapies, whether medical or surgical. With Pyridium you have greater flexibility in the use of any potency or dosage schedule required for successful treatment.

*Dosage:* 2 tablets before each meal.

*Supplied:* Bottles of 12, 50, 500 and 1,000.

serve three years in U. S. hospitals and present letters of recommendation.

Reciprocity is given to foreign graduates if their school is approved and they have served one year in an approved hospital in the U. S.

No distinction is made between an alien student and a U. S. citizen who went abroad for study.

For further information write to: Robert H. Reddick, M.D., Secretary, Board of Medical Examiners, Cambridge, Maryland.

### *MASSACHUSETTS*

To be eligible for licensure in Massachusetts, a foreign graduate:

- Must have first papers.
- Need not have hospital training in the U. S.

No distinction is made between an alien student and a U. S. citizen who went abroad for study.

For further information write to: Dr. R. C. Cochrane, Secretary, State House, Room 37, Boston, Massachusetts. Include premedical and medical background.

### *MICHIGAN*

For purposes of medical licensure, Michigan's Board of Examination:

- Defines foreign medical schools as those outside the continental United States or the Dominion of Canada. It makes no distinction between foreign schools.
- Requires full citizenship.

• Requires a full twelve month internship in an approved hospital in the U. S. or Canada. If the internship is to be served in Michigan, a personal interview for evaluation of credentials for an internship permit is required.

*Note:* If a residency is to be served in Michigan, a temporary license for residency training is required. This entails a one hour oral comprehensive screening examination. Full citizenship is not necessary for this temporary residency license. Part of the oral interview and examination is to determine the applicant's comprehension of English.

Michigan licensure rules call for formal, postgraduate education when an applicant has failed the screening examination twice.

For reciprocal endorsement, foreign graduates must meet all requirements of another state, as required of a U. S. graduate, and 1) pass the oral screening board examination; 2) hold full citizenship.

In addition, Michigan makes no distinction between an alien student and a U. S. citizen who went abroad for study.

• Requires a Michigan basic science certificate of all applicants.

For further information write to: Dr. E. C. Swanson, Executive Secretary, 118 Stevens T. Mason Building, West Michigan Avenue, Lansing, Michigan.


when anxiety and tension "erupts" in the G. I. tract...

**IN ILEITIS**

**PATHIBAMATE***

Meprobamate with PATHILON® Lederle

*Combines* Meprobamate (*400 mg.*) the most widely prescribed tranquilizer . . . helps control the "emotional overlay" of ileitis — without fear of barbiturate loginess, hangover or habituation . . . *with* PATHILON (*25 mg.*) the anticholinergic noted for its extremely low toxicity and high effectiveness in the treatment of many G.I. disorders.

*Dosage:* 1 tablet t.i.d. at mealtime. 2 tablets at bedtime. *Supplied:* Bottles of 100, 1,000.

Lederle

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LEDERLE LABORATORIES DIVISION, AMERICAN CYANAMID COMPANY, PEARL RIVER, NEW YORK

# Mediquiz

*Questions are from a civil service examination given to candidates for physician appointments in municipal government.*

*Answers on page 187*

1. The electrocardiographic findings in pulmonary embolization (acute cor pulmonale) may closely simulate those found in: (A) acute myocardial infarction; (B) Fiedler's myocarditis; (C) atrial septal defect; (D) left ventricular hypertrophy.

2. The average daily maintenance dose of digitoxin is: (A) 0.1 gm.; (B) 0.2 gm.; (C) 0.1 mg.; (D) 0.2 mg.

3. The average daily maintenance dose of whole leaf digitalis is: (A) 0.1 gm.; (B) 0.1 mg.; (C) 0.01 gm.; (D) 0.01 mg.

4. In congestive heart failure of beriberi heart disease the cardiac output is: (A) variable; (B) decreased; (C) unchanged; (D) increased.

5. Sanitation workers should exercise unusual caution in handling burned out fluorescent lamp tubes because the tubes may contain: (A) fluorine gas; (B) hydrogen sulfide; (C) beryllium compounds; (D) radium salts.

6. Biopsy of rectal mucosa is of greatest value in the diagnosis of: (A) amebiasis; (B) pinworm infections; (C) schistosomiasis hematobium; (D) schistosomiasis mansoni.

7. The leading cause of death in acute urinary suppression (as encountered in acute glomerulonephritis, incompatible transfusions, renal ischemia secondary to shock, etc.) is: (A) pulmonary edema; (B) ventricular fibrillation; (C) encephalopathy; (D) acidosis.

8. Of the following the one which is of the gravest prognostic significance in hypertensive vascular dis-

# NEW INTRAMUSCULAR IRON PROVIDES PRECISION THERAPY, PROMPT RESPONSE

IMFERON,® the new intramuscular iron-dextran complex, was introduced to American hematologists at the Sixth International Congress of the International Society of Hematology held in Boston, August 27 to September 1, 1956. Recent experience from over 6 million injections has shown that this iron preparation is easy to administer, notably free from toxic effects, quickly absorbed and productive of rapid hematologic and clinical improvement. It has been termed "...the only therapeutically effective iron preparation for intramuscular use...."[1]

IMFERON meets the need for a safe, effective agent when parenteral iron is preferable for patients with iron deficiency anemia who are resistant or intolerant to oral iron, those with depleted iron reserves and those who require rapid restoration of hemoglobin, *e.g.* last trimester of pregnancy.

Previous parenteral iron preparations were unsatisfactory because of toxicity, pain on injection, or because they contained insufficient iron. IMFERON contains the equivalent of 5 per cent elemental iron. It is more stable than iron saccharate both *in vitro* and *in vivo* and does not precipitate in plasma over a wide pH range. It is isotonic with tissue fluids and has a pH of 5.2 to 6.0.[1] Utilization for hemoglobin formation is almost quantitative.

**Precision Therapy with IMFERON:** Before treating a patient with IMFERON, total iron requirement is calculated by formula or determined from a convenient dosage chart. Then appropriate amounts of IMFERON are injected daily or every other day, until the total calculated required amount is given.

**Iron Deficiency Anemia of Infancy:** IMFERON provides a convenient safe means for restoring hemoglobin levels and iron reserves in anemic infants. Excellent results were obtained by Gaisford and Jennison[2] with IMFERON in 100 iron-deficient infants. From a pretreatment average of 54.5 per cent, hemoglobin levels rose to 87 per cent 10 weeks after the start of therapy. Clinical improvement paralleled this response. Premature infants and surgical cases were similarly benefited. IMFERON gave "...all the advantages of transfusion or intravenous therapy without the disadvantages."[2] There were no side effects in any of the infants treated. Wallerstein[3] confirmed these results, furnishing evidence that IMFERON is well absorbed and appears in the bone marrow 12 to 24 hours after injection. Results are equal to those with intravenous saccharated iron oxide without the unpleasant side effects. Sturgeon[4] showed that the first year's iron requirements in infancy can be supplied with three injections of IMFERON.

**Iron Deficiency Anemia of Pregnancy:** Nausea precludes oral iron therapy in many anemic pregnant women. In those with severe anemia who are first seen late in pregnancy, prompt hemoglobin regeneration is unobtainable with oral iron. IMFERON produced prompt hemoglobin responses in anemia of pregnancy,[5,6] the results being similar to those obtained with intravenous saccharated iron oxide. Side effects were virtually absent with IMFERON.[5,6]

**Resistant Hypochromic Anemia:** Patients who do not respond to oral iron, those who cannot take oral iron and those with gastrointestinal pathology respond well to injections of IMFERON.[7-11] While oral iron is of little value in treating the anemia of rheumatoid arthritis, IMFERON is "...as beneficial as intravenous iron and easier to administer."[8]

***Present Studies:*** Published reports and recent findings of clinical investigators confirm the effectiveness and safety of IMFERON for hemoglobin regeneration and creation of iron stores. More than 70 studies are now being completed in the United States. Reports stress prompt hemoglobin response, ease of administration and freedom from side effects. Clinicians desiring additional information should request Brochure No. NDA 17, IMFERON, Lakeside Laboratories, Inc., Milwaukee 1, Wisconsin.

**References:** (1) Brown, E. B., and Moore, C. V., in Tocantins, L. M.: Progress in Hematology, New York, Grune & Stratton, Inc., 1956, vol. I, p. 25. (2) Gaisford, W., and Jennison, R. F.: Brit. M. J. 2:700 (Sept. 17) 1955. (3) Wallerstein, R. O.: J. Pediat. *49*:173, 1956. (4) Sturgeon, P.: Pediatrics *18*:267, 1956. (5) Jennison, R. F., and Ellis, H. R.: Lancet 2:1245 (Dec. 18) 1954. (6) Scott, J. M., and Govan, A. D. T.: Brit. M. J. 2:1257 (Nov. 27) 1954. (7) Grunberg, A., and Blair, J. L.: A.M.A. Arch. Int. Med. *96*:731, 1955. (8) Millard, J. B., and Barber, H. S.: Ann. Rheumat. Dis. *15*:51, 1956. (9) Baird, I. M., and Podmore, D. A.: Lancet 2:942 (Nov. 6) 1954. (10) Cappell, D. F.; Hutchinson, H. E.; Hendry, E. B., and Conway, H.: Brit. M. J. 2:1255 (Nov. 27) 1954. (11) Stevens, A. R.: A.M.A. Arch. Int. Med. 96:550 1956.

IMFERON® IS DISTRIBUTED BY LAKESIDE LABORATORIES, INC., UNDER LICENSE FROM BENGER LABORATORIES, LIMITED. AVAILABLE IN 2-CC. AND 5-CC. AMPULS THROUGH YOUR REGULAR SUPPLIERS.

LAKESIDE

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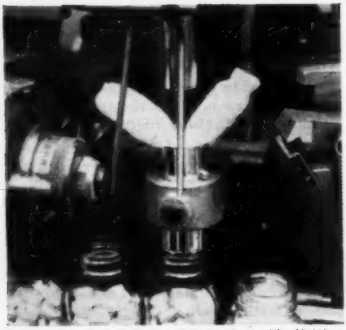
**REVOLUTIONARY MACHINERY**
**Latest manufacturing and packaging equipment is used in the production of Orinase.* Automatic cotton-stuffer eliminates hand operation, safeguards sterility.**



*Trademark, Reg. U.S. Pat. Off.—tolbutamide, Upjohn

THE UPJOHN COMPANY
Kalamazoo, Michigan **Upjohn**

ease is: (A) cardiac hypertrophy; (B) papilledema and retinal hemorrhages; (C) diastolic blood pressure of 126 mm. of mercury; (D) faint trace of albuminuria.

9. Jaundice without bile in the urine occurs most commonly in: (A) transfusion reaction; (B) amyloid disease; (C) chloroform poisoning; (D) amebiasis.

10. Enlargement of the gall bladder is of diagnostic significance in: (A) cholelithiasis; (B) carcinoma of the ampulla of Vater; (C) cholesterosis; (D) biliary cirrhosis.

11. The nephrotic syndrome is usually associated with: (A) nephro-

when anxiety and tension "erupts" in the G. I. tract...

**in spastic and irritable colon**

**PATHIBAMATE***

Meprobamate with PATHILON® Lederle

*Combines* Meprobamate (*400 mg.*) the most widely prescribed tranquilizer... helps control the "emotional overlay" of spastic and irritable colon—without fear of barbiturate loginess, hangover or habituation... *with* PATHILON (*25 mg.*) the anticholinergic noted for its extremely low toxicity and high effectiveness in the treatment of many G.I. disorders.

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sclerosis; (B) pyelonephritis; (C) polycystic disease; (D) glomerulonephritis.

12. The best evidence of left ventricular hypertrophy may be obtained from the: (A) fluoroscopic examination; (B) electrocardiogram; (C) clinical examination; (D) ballistocardiogram.

13. In rheumatic heart disease the commonest cause of the appearance of heart failure is: (A) rheumatic activity; (B) emotional trauma; (C) development of mitral stenosis; (D) overexertion.

14. Acute glomerulonephritis is best treated by: (A) rigid salt restriction and high potassium diet; (B) forcing fluids and restricting salt; (C) rigid fluid restriction and hypertonic salt; (D) adequate fluids for turnover with adequate calories in diet.

15. A large pulse pressure may be encountered in: (A) mitral stenosis; (B) aortic stenosis; (C) patent ductus arteriosus; (D) bicuspid pulmonic valve without insufficiency.

16. A cardiopulmonary murmur usually occurs in: (A) mesodiastole; (B) presystole; (C) early diastole; (D) systole.

17. Edema, ascites, enlarged liver and venous pressure of 180 mm.

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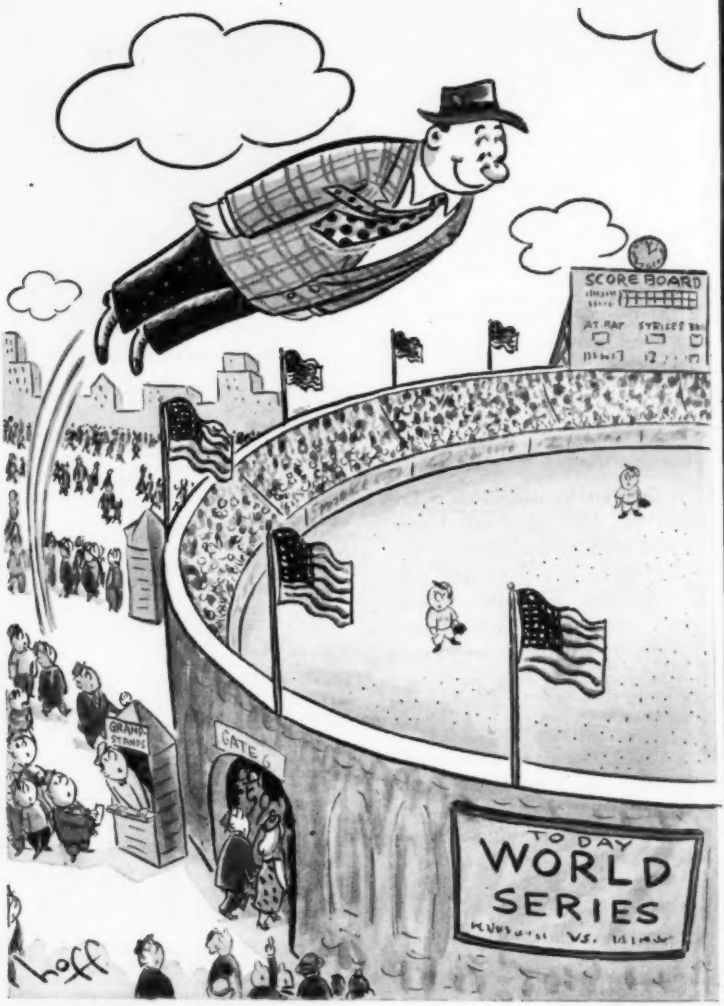


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of saline suggest: (A) Laennec's cirrhosis; (B) congestive failure; (C) inferior vena caval obstruction; (D) acute glomerulonephritis.

18. Hemoptysis is common in: (A) mitral stenosis; (B) aortic insufficiency; (C) patent ductus arteriosus; (D) tetralogy of Fallot.

19. Pulsus alternans is best detected by: (A) observation of jugular pulsations; (B) electrocardiogram; (C) auscultation; (D) sphygmomanometer.

20. Myocardial infarction is always: (A) associated with leucocytosis; (B) productive of electrocardiographic changes; (C) associated with cardiac pain; (D) associated with heart muscle damage.

21. Pulmonary hemosiderosis is most often seen in association with: (A) chronic cor pulmonale; (B) aortic insufficiency; (C) tricuspid stenosis; (D) mitral stenosis.

22. In making a diagnosis of arteriosclerotic heart disease with anginal syndrome, the most useful single aid is the: (A) clinical history; (B) ballistocardiogram; (C) electrokymogram; (D) electrocardiogram including the exercise tolerance test.

23. Goitrogenic drugs are effective in the treatment of hyperthyroidism because they: (A) depress the pituitary secretion of thyrotropic hormone; (B) block the formation

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of thyroxine; (C) promote the absorption of iodine; (D) cause the deposition of colloid.

24. A patient has a large, firm liver. There is no jaundice and a battery of liver function tests including the bromsulfalein excretion is within normal limits. The probable diagnosis is: (A) cirrhosis; (B) neoplastic infiltration; (C) fatty infiltration; (D) hepatitis.

25. X-ray studies of the gall bladder are not indicated in patients with: (A) fat intolerance; (B) a food idiosyncrasy; (C) iodine intolerance; (D) a past history of hepatitis.

26. A patient has a prepyloric ulcer on the lesser curvature of the stomache which shows no healing by x-ray after eight weeks of medical therapy. He should have: (A) laparotomy and gastric resection; (B) further medical treatment; (C) vagotomy; (D) deep x-ray therapy.

27. The clinical picture associated with profound hyponatremia is ofoften seen after: (A) total gastrectomy; (B) fresh ileostomy; (C) pneumonectomy; (D) partial pancreatectomy.

28. The value of lead in urine which is generally accepted as the upper limit of normal is: (A) 0.01 milligram per liter; (B) 0.1 milligram per liter; (C) 0.5 milligram per liter; (D) 1.0 milligram per liter.

29. A patient with extensive second degree burns is a recipient of a transfusion from a donor recently returned from Greece. Two weeks later, he develops unexplained fever and subsequent jaundice. This is most likely due to: (A) quartan malaria; (B) bacteremia; (C) serum hepatitis; (D) hemolytic jaundice.

30. The diagnosis of vivax malaria is established if: (A) the temperature curve assumes a tertian pattern; (B) there is a history of exposure in an endemic area, relapses of fever which respond to quinine, leucopenia and splenomegaly with attacks; (C) the spleen and liver become enlarged; (D) P. vivax is demonstrated in a single field of a thin blood film.

## MEDIQUIZ ANSWERS

1(A), 2(C), 3(A), 4(D), 5(C), 6(D), 7(A), 8(B), 9(A), 10(B), 11(D), 12(A), 13(A), 14(D), 15(C), 16(D), 17(B), 18(A), 19(D), 20(D), 21(D), 22(A), 23(B), 24(C), 25(C), 26(A), 27(B), 28(B), 29(A), 30(D).


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# What's the Doctor's Name?

He was born at Cambridge, Mass., August 29, 1809 and died October 7, 1894.

He was educated at Philips Andover Academy and Harvard University. He abandoned the study of law for medicine; studying at Harvard Medical school and from 1833-35, in the hospitals of Paris. He received his M.D. from Harvard in 1826, the year he published his first volume of *Poems*, the humor of which did not help his medical reputation. But he was a man of science as well as a man of rhymes; he invented the best stethoscope known in his time.

He was, in 1838, professor of anatomy at Dartmouth and in 1847 became Parkman professor of anatomy and physiology at the Harvard Medical School where he was later Dean and in 1882, emeritus professor.

He was a member of the famous Saturday Club and was noted for his wit and urbanity when lecturing in the classroom or elsewhere. One of his doctrines was that "education

always begins through the senses and works up."

In 1842 he published two important medical pamphlets, *Homeopathy and Its Kindred Delusions* and *The Contagiousness of Puerperal Fever*, the latter a major contribution. His work *Mechanism in Thought and Morals* was on the "underground workshop of thought" which we now call the subconscious. In some of his intuitions he anticipated not only Freud but Aldous Huxley's thoughts on problems of eyesight. His advocacy that the criminal should not be punished but "should be treated as one morally sick" makes him a pioneer in his field.

Through his famous "Breakfast Table" books he was welcomed by the reading public into their homes as an autocrat, professor and poet. This series contained two of his most popular poems, *The Chambered Nautilus* and *The Deacon's Masterpiece*. Other writings include novels, *Elsie Venner, The Guardian Angel* and *A Moral Antipathy;* biography, *John Lothrop Motley* and *Ralph Waldo Emerson;* and numerous collections of essays and poems. He is best known however for a poem, written when twenty-one, by which he stirred the nation and saved the U.S.S. Constitution from being scrapped.

His son, bearing the same name, was an Associate Justice of the U.S. Supreme Court for close to thirty years. Can you name this doctor without turning to page 194?


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## WHAT'S THE DOCTOR'S NAME?

*(from page 188)*

The doctor is Oliver Wendell Holmes

## VIEWBOX DIAGNOSIS

*(from page 21)*

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*(puzzle on page 15)*

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